

Mac FORMAT

Future

Issue 290 | September 2015
MacFormat.com | @MacFormat



FOR ALL YOUR
APPLE NEEDS
— for 22 years —

Apple Music Your complete guide

Get more from the
new music service
on Mac and iOS

PLUS... THE IPOD REBORN!

Amazing camera, great
music player and 128GB!



#1 THE UK'S
BEST-SELLING
APPLE MAG!

**Latest
news on
iPhone 6s**
Apple rumour
round-up...
p6

iCloud Secrets

Get El Capitan's features now

Split View, new Notes,
improved Safari and more!



Boost your Mac's battery

Proven ways to eke out
more MacBook power



Be super-smart with folders

Get alerted to incoming
files and other new tricks

Unleash the true power of Apple's cloud
backup and sync tools – we show you how!

✓ iCloud Photo Library ✓ Family Sharing ✓ iCloud Keychain



116 pages of help and advice

We'll help you get even more
from your Mac and iOS devices!

KIT RATED

- Canon's new DSLR
- 2TB Samsung SSD
- Affordable 4K display



Which is the toughest drive?

Rugged external hard drives
put through extreme tests...





AluBolt™

The upright Lightning dock for iPhone and iPad mini



TimeStand™

The iconic charging stand for Apple Watch

just | mobile®

ACCESSORIES FOR THE REFINED TASTE

Available Now From
amazon.co.uk

JUST-MOBILE.COM

Just Mobile Ltd. All rights reserved. Just Mobile and other Just Mobile marks are owned by Just Mobile Ltd. and may be registered. All other trademarks are the property of their respective owners. Pictures of Apple products are for illustration purposes only.

Welcome

**NEXT
MONTH**
Troubleshoot
OS X & iOS
2 Sept

to MacFormat, the UK's best-selling Apple magazine



Apple's iCloud has had its fair share of problems since it rose from the ashes of the old MobileMe service, but most of the issues have been ironed out. However, as iCloud has continued to balloon in size by rolling in even more services, it's easy to get confused and frustrated with what Apple has done – but help is at hand with our in-depth guide to everything that iCloud covers in 2015, from managing your iCloud Drive storage to understanding how iCloud Photo Library really works, we've got it covered. We'll even show you how to work more effectively in iCloud Drive on a Mac and iOS device.

Talking of iCloud, it's been a slightly troubled start for Apple's iCloud Music Library in iTunes 12.2, but Apple seems to have patched the worst issues. iTunes 12.2 brings us Apple Music, the first music streaming service from Apple. You get the first three months free, so there's no reason not to give it a try. You'll find our guide to the new service on page 18.

Also, as it's summer we know that you might be taking high-capacity drives on holiday, filled with music, movies and photos. Check out our group test about rugged drives before you go (page 94).



Christian Hall
Editor
editor@macformat.com

Meet the team!



Alan Stonebridge
Production Editor



Alex Blake
Commissioning Editor



Paul Blachford
Managing Art Editor



Seth Singh
Digital Art Editor

Plus our team of expert writers and designers all over the world, who help make *MacFormat* number one!

Love MacFormat?

**TURN TO
PAGE 42 NOW
FOR THE LATEST
SUBSCRIPTION
OFFERS!**



Want the print
magazine overseas?
Turn to p82

The new print and digital
bundle is just £30 for all
new subscribers

Contact us



myfavouritemagazines.co.uk/macformat



facebook.com/macformat



twitter.com/macformat



plus.google.com/+MacFormatUK



youtube.com/MacFormatUK



CONTENTS

NEWS & OPINION | STEP-BY-STEP TUTORIALS | LATEST REVIEWS | MAC BUYERS' GUIDE

ISSUE AT A GLANCE



IMPROVE Do more with your Apple gear

Try out our fantastic tutorials covering OS X, iOS and a range of the latest and greatest Mac software **p45**



APPLE TALK Have your say about Apple issues

The section of the mag where you get the chance to speak your mind on everything Apple-related **p64**



RATED Discover the best apps and kit

Read our verdict on the latest hardware and software for Apple devices, including games and iOS apps **p87**



UPGRADE! The best Macs and iOS devices

If you're looking for a Mac, iPhone, iPad or Watch, check out our Upgrade section before you buy **p107**

iCloud Secrets



p28

Unleash the true power of Apple's cloud backup and sync tools – we show you how!



Get OS X El Capitan features today!

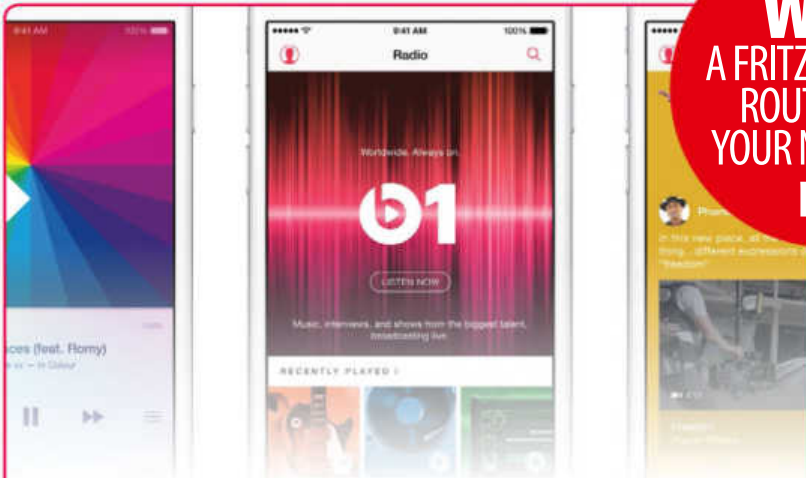
Get a better Mac experience right now, not in the autumn **p48**

Get into 3D PRINTING

Cutting-edge tech
in your home p76



WIN!
A FRITZ!BOX 3490
ROUTER FOR
YOUR NETWORK
p86



APPLE MUSIC

Find out how to make the most of the millions of tracks
available in Apple's new streaming service p18



Canon 760D digital SLR

Take superb quality photos p88



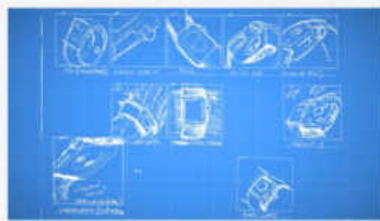
Rugged hard drives

Five protective storage devices! p94



Tweetbot for Twitter 2.0

Even better for chatterboxes p98



Carbo

Make paper notes go digital p105



HIGHLIGHTS

AppleWorld

Hot news from the
world of Apple p6

Picks from the Store

The best apps, games,
movies and music p10

Gadgets

Amazing new gear p12

One more thing

Apple opinion p16

Apple Music

Make the most of Apple's
new service p18

iCloud Secrets

Master Apple's online
storage and services p28

Improve

Get more from your
Apple devices p45

AppleTalk

Your letters, pictures
and more p64

Mac SOS

Mac problems solved p69

3D printing

Get the revolutionary
tech in your home p76

Competition

Win a FRITZ!box router for
your network p86

Rated

Definitive reviews of the
latest kit and apps p87

Group test

Five rugged hard drives to
protect your files p94

Upgrade!

Which Mac or iOS device
should you buy? p107

SUBSCRIBE AND SAVE

Never miss an issue of
your favourite magazine
again! Get MacFormat
delivered straight to your
door or device with our
great subscription offers
on page 42.



Apple

We round-up the Apple stories that matter to you

WORLD



What we expect from iPhone 6s

We've been sifting through all the latest speculation to show you what you can expect from Apple's next smartphones.

Expectation for the iPhone 6s is already climbing with reports from China claiming Apple has asked manufacturers to make 90 million units of the next-generation device, so what can we expect from this release? We've taken a look at current speculation and while we don't anticipate any big changes in terms of shape and size, we are expecting improvements to the camera, performance and user interface.

Force Touch

KGI Securities analyst Ming-Chi Kuo predicted in May that ForceTouch support will appear in the new iPhones, calling this "the most significant change to the iPhone's interface to date".

Introduced in MacBook and Apple Watch, Force Touch should enable Apple to bring us user interface enhancements and could enable the company to replace the existing iPhone Home button with a new haptic, Force Touch-enabled button (though this may not be until 2016), enabling the entire front face of the iPhone to also be a usable display. In this iteration it seems likely Force Touch will be integrated across the system and its apps, for example in Maps to drop new pins or in media players for pressure-sensitive scrolling.



Apple is expected to take big steps towards transforming the iPhone into a DSLR-equivalent camera



iPod family updated

➤ It must have felt a bit lonely being an iPod recently. The neglected middle child of the Apple ecosystem has felt increasingly isolated – dare we say irrelevant? – as Tim Cook's team has surged on with developing virtually every other Apple device.

But that's all changed now that the Cupertino firm has updated the iconic iPod family, both in terms of looks and hardware.

The iPod touch gets the lion's share of the updates with a meaty upgrade to its camera, taking its resolution from 5MP to 8MP and

bringing it in line with the iPhone 6. Further improvements to the camera include a new image processing chip and slow-motion video capture, as well as the inclusion of burst mode for shooting multiple frames in quick succession.

Apple's fitness drive also translates to the iPod touch thanks to the introduction of an M8 motion co-processor, which will allow you to track your fitness and elevation on the move.

That's not all – Apple has also included a speedy new 64-bit A8 chip in the iPod touch to ensure its new features run smoothly, and to future-proof it for upcoming iOS updates.

Most of the new hardware features are exclusive to the iPod touch. However, all iPod models – touch, shuffle and nano – get five new colour schemes, including space grey, blue, gold, pink and silver. There's also a special (PRODUCT)RED edition, with Apple donating part of the purchase price to the global fund to fight AIDS in Africa.

Will this be enough to rejuvenate the iPod line and restore to glory one of the most iconic Apple devices? We'll have to wait and see.



Display

Following the success of the larger iPhone 6 Plus, Apple will offer the iPhone 6s series in both 4.7- and 5.5-inch sizes. There have been reports Apple and Foxconn have been working together to deploy sapphire displays (as we had expected would appear in iPhone 6), which should bring us better scratch and shatter protection. There is a (less credible) Chinese report that claims the iPhone 6s Plus may even get a 2K display.

Processor

Apple gave iOS 64-bit support in 2013. Since earlier this year all iOS apps must support 64-bit to be included on the App Store. It has been suggested the A9 chip will be a 14-nanometer 2.5GHz processor based on ARM's Cortex-A72 CPU design, capable of "console-class gaming performance". To make performance even better, Apple is expected to double the available RAM inside iPhones (up to 2GB).

Faster 4G

Leaks claiming to be from inside China Mobile allege the iPhones 6s may use a Qualcomm LTE/4G chip, which supports LTE-Advanced, a new 4G standard that's two to three times as fast as the current 4G standard.

Camera+

iPhones have been the top mobile cameras for images shared on Flickr for years. This continues in iPhone 6s, when Apple is expected to take big

steps towards transforming its smartphone into a DSLR-equivalent camera. Code inside iOS 9 suggests a 12-megapixel camera, 4K video and 240fps slow-motion, as well as a boost to the front-facing camera, which should also gain a flash. Well-reputed gossip site Daring Fireball has previously speculated Apple may deploy technologies it acquired when it purchased LinX for \$20 million inside the iPhone 6s. If it does so then expect improvements in colour fidelity, image sharpness and low light level image capture thanks to a dual-lens camera system.

Compact body

Apple Watch squeezes most of its components (RAM, storage, sensors and processors) inside a single compact package so a great deal of technology can be squeezed inside a small space. China Times believes Apple will adopt this approach in the iPhone 6s. Chinese reports also claim Apple plans to use the metal alloys (such as Series 7000 aluminium alloy) developed while creating the Apple Watch, potentially based on metal processes once again licensed from LiquidMetal this year. The biggest news is likely to be the new colours: a more yellow gold, a darker grey and a rose gold model.

Faster, with excellent cameras and available in new colours, we can't wait to see the iPhone 6s.

Apple in QUOTES

What are people saying about the world of Apple?

Tim Cook

www.apple.com

"My thoughts are with the victim's families in SC. Let us honor their lives by eradicating racism & removing the symbols & words that feed it."

Apple CEO stands up for diversity following US racist shooting tragedy

Electronic Frontier Foundation

www.eff.org

"We commend Apple for its strong stance regarding user rights, transparency, and privacy."

Online civil rights organisation praises Apple's privacy stance

Eddy Cue

www.apple.com

"We are working to have Home Sharing in iOS 9."

Apple's internet chief says things are under control

Eric Schmidt

www.google.com

"Their [Apple's] claims are largely false in their description of us."

Is the ex-Apple board member running scared of Tim Cook?



Rumour ROUNDUP

The top 5 Apple stories we're talking about

01

Jony Ive quits?

Speculation Apple's top designer may quit the company follows news the company's new design leads report to Tim Cook, not Ive.

02

Apple Video After Apple Music, what could Apple do with a video streaming service to rival Netflix? Hulu is already stepping up its fight by going ad-free.

03

Apple Pay for friends

A recent Apple patent reveals the company's plans to enable Apple Pay users to pay others by tapping their iPhones.

04

Apple Watch 2

The Apple Watch 2 is expected to host a larger battery, a report claims – it will definitely need to in order to drive its own internal 4G chip.

05

In the pink?

The Daily Mail claims Apple will introduce a rose pink and white iPhone 6s designed to appeal to the Chinese and Korean market later this year.

Apple Insider

Our industry expert rounds up the biggest Apple corporate stories circulating this month



Apple is the PC market The latest PC market figures from Gartner and IDC are grim reading for everyone but Apple, confirming yet another quarter in which Mac market share has increased as the industry contracts. Mac sales rose 16.1% year-over-year in the June quarter even as the PC industry as a whole shrank 11.8%, according to IDC; Gartner claims US Mac sales dropped 2.5% against an industry decline of 5.8%, but this is attributable to slight differences of methodology between the two firms. Apple is fourth (Gartner) and third (IDC) biggest PC vendor in the US and number four worldwide, according to IDC. Apple consistently delivers better results than PC industry trends as it consolidates its position among the top five vendors.

What fragmentation? Apple Music (Apple's new paid-for music streaming service currently available with a three-month free trial – see page 18) has helped convince millions of iPhone users to upgrade to the recently released iOS 8.4. Within one week of the introduction of the latest software upgrade, 84% of iOS users were only on iOS 8, while new research from Mixpanel pegged iOS 8.4 adoption as already reaching 40% of the installed iOS user base. Mixpanel CEO Suhail Doshi said: "The pace at which adoption has occurred indicates Apple Music is definitely a key



iOS 8.4, with Apple Music, has seen rapid adoption and upgrades from users with earlier versions on iOS 8.

factor" in driving adoption. Apple's iOS 9 is in public beta now and due in September.

Office 2016 ships (almost)

Microsoft has made the latest Office upgrade, Office 2016 for Mac, available to any Mac user with an Office 365 subscription (from £5.99 for the Home Edition). The updated suite includes redesigned, rewritten versions of Word, Excel, PowerPoint, Outlook, and OneNote. Each application features a Microsoft Metro style interface, a user interface that the company is attempting to deploy across every platform or device its software supports. There's a range of new features including realtime group editing of Word documents and feedback during the beta process has been extremely positive. Microsoft says it will ship the standalone version of Office 2016 for Mac in September.

Stock watch

Clem Chambers, CEO of ADVFN, the leading stocks & shares website



> There's a belief that Apple will fall now. This could happen for two reasons. The first is the global equity market is very fragile. China has crashed and Greece, 'Grexit' or not, has made markets swing around on the basis of 10 million folks bouncing their collective cheques. If 0.2% of the world's population can

swing the Dow 500 points then the market is not robust and could easily take a heavy tumble. Apple may as well be the NASDAQ, so if the market goes belly up so will Apple.

The second reason is the Apple Watch. It's not going to do the \$18 billion of sales in the first year the clownish analysts were screaming; it will be lucky

to do \$5 billion. I predict less than stellar success for one simple reason: I want one, and that's not a good sign!

Joking aside, a quite normal slow start to sales of the Apple Watch could drag heavily on Apple because it will beg the question: "Where is the next Apple smash hit going to come from?" Time will tell.

ULTRAHD 12G SDI

Blackmagicdesign



Introducing Blackmagic URSA Mini, the lightweight Super 35 4.6K digital film camera with 15 stops of dynamic range!

Introducing URSA Mini, a handheld Super 35 digital film camera with an incredible 4.6K image sensor, global shutter and a massive 15 stops of dynamic range! The super compact and lightweight design is perfectly balanced, making it comfortable enough for all day shooting. URSA Mini lets you shoot at up to 60fps, features a 5" foldout viewfinder, dual RAW and ProRes recorders, and more!

Incredible 4.6K Sensor

URSA Mini can capture images at a resolution and dynamic range that goes well beyond that of traditional motion picture film so you can shoot your own epic, cinematic masterpiece! You can capture images up to 4608 x 2592, which is larger than 4K DCI, with 15 stops of dynamic range so you get incredibly clean pictures with amazing detail in everything from the darkest shadows to the brightest highlights! URSA Mini can record 4.6K at up to 60fps, or 1080 HD at up to 120fps.

Lightweight and Portable

URSA Mini's perfectly balanced body is made out of space aged magnesium alloys so it's rugged, yet lightweight and comfortable enough to be used all day. You get a super bright 5" fold out touch screen for on-set monitoring, that can also display overlays for timecode, histograms, audio meters, focus peaking and more! URSA Mini features full size, professional connectors, even 12G-SDI, so you don't need custom cables, plus high quality stereo microphones and a side grip mounted on a standard rosette.

Completely Customizable

Blackmagic URSA Mini is completely customizable so you can create a rig that's built specifically for your production! Add accessories like the Blackmagic URSA Viewfinder and Blackmagic URSA Mini Shoulder Kit, or choose from hundreds of third party accessories. URSA Mini has 9 standard 1/4" threaded mounting points on the top and bottom of the camera so you can mount it directly to a tripod as well as add accessories such as rails, matte boxes and more.

Non-Stop Recording

You never have to stop recording because URSA Mini features two CFast 2.0 recorders! When one card is full, recording automatically continues onto the next. URSA Mini uses the latest, incredibly fast CFast 2.0 technology for recording speeds up to 350 MB/s. Wide dynamic range images are saved as 12-bit RAW files, which are perfect for high end grading and effects work, or as broadcast quality ProRes, for easy post production workflows with minimum storage requirements!



Blackmagic URSA Mini 4K EF	£2,025
Blackmagic URSA Mini 4K PL	£2,359
Blackmagic URSA Mini 4.6K EF	£3,355
Blackmagic URSA Mini 4.6K PL	£3,699
All models include DaVinci Resolve 12	

www.blackmagicdesign.com/uk

Electronic Viewfinder, lens and accessories sold separately.
*SRP is Exclusive of VAT

Picks from THE STORE

*We select the best apps
& games out there*



On our APPLE TV

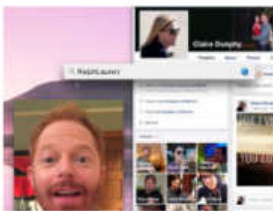
What we're watching on
the iTunes movie store



FILM Still Alice

£9.99 (to buy) HD

➤ Winner of numerous awards and with a stellar performance from Julianne Moore, *Still Alice* follows a linguistics professor's struggle against Alzheimer's and the toll it takes on her family.



TV Modern Family

£24.99 (HD), £2.49 per episode

➤ The sixth season of this energetic sitcom is full of hilarious antics, yet it's the episode *Connection Lost* that will most fascinate Mac fans, because its entire 22-minute duration takes place on the desktop of a MacBook.



*Affinity Photo is the
closest we've seen to
the power of the
all-conquering
Photoshop*

Affinity Photo

£39.99 Developer Serif Labs, affinity.serif.com
Works with OS X 10.7 or higher



Many have tried to topple Adobe's stranglehold of the premium photo editing market and failed. Affinity Photo from Serif, however, is the closest we've seen to the power of the all-conquering Photoshop. We've been using the beta for the last few months and the final release is every bit as good as we'd hoped. Incredibly, it's just £39.99 from the Mac App Store too.

So why is it getting so much attention? Well, despite many great photo apps doing certain niche things better than Photoshop, and often at a cheaper price, there's rarely been something offering Photoshop's near full feature set and with such great performance on the Mac.

It's developed specifically for the Mac too. Our in-depth review will be in our next issue...

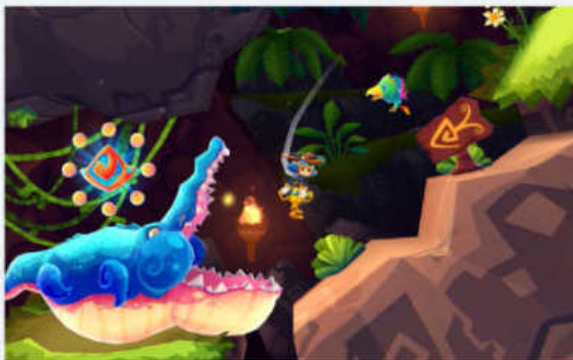


Shelter 2

£10.99 Developer MP Digital, macplay.com
Works with OS X 10.7 or higher



The striking visuals of this stunning game are just one of its many draws. Guide a lynx and her young family through the unforgiving tundra until her cubs reach maturity. Sounds simple, but the harsh environment, savage predators and lack of food ensure it's not. It looks like an experience that's sure to tug on the heartstrings.



Heroki

£5.99 Developer Sega America, sega.com
Works with iPhone, iPod touch, iPad



Reminiscent of Sonic the Hedgehog, Heroki could also become an instant classic. It's full to bursting with bright, beautiful vistas, and you can't help but smile when you see the flying hero dodge a swinging boulder or lob a wooden box towards a colourful enemy. It's one of the best-looking iOS games we've seen in many a moon.



Deliveroo

Free Dev Roofoods, deliveroo.co.uk
Works with iPhone, iPod touch, iPad



Fancy a takeaway but getting sick of greasy fish and chips? Try Deliveroo, which lets you get food delivered from your favourite restaurants. It currently operates in 14 UK cities and has partnered with famous names like Gourmet Burger Kitchen, Carluccio's and Busaba Eathai. So now there's no excuse to visit the local kebab van – even if it claims to do 'the best burgers in town'!

On our PLAYLIST

What's on the office speakers



MUSIC
Kamasi Washington, The Epic
£7.99

➤ Kamasi Washington isn't your average saxophonist, having worked with Snoop Dogg and other hip hop heavyweights. Yet, this deeply soul jazz record showcases him as a bandleader capable of some very complex melodies, layered in different jazz styles.



PODCAST
Don't Worry; It's Only the End of the World

Free

➤ Who would have thought the apocalypse could be so entertaining? This radio comedy follows a group of survivors as they attempt to overcome the pressing issues of the post-apocalyptic age – namely, being pursued by vicious OAP gangs, kicking addictions and fretting over the recycling.

GADGETS

Hot gear on the horizon... what's got us excited?



WE'RE MOST EXCITED ABOUT...

NYMI BAND

\$149 (about £95) nymi.com

Aside from making logging in far more convenient, Nymi could drastically increase security

What is it? It may not look like more than a simple wristband, but the

Nymi may change the way we interact with technology. It uses an electrocardiogram to store a biometric password based on your heart's unique signature (Heart ID?), so all you need to log in to your Mac, your iPhone or any of your other devices is to have a Nymi on your wrist.

When's it due? Full release date TBC

Why are we excited? Aside from making logging in far more convenient, the Nymi could drastically increase your device's security. Even if someone did manage to find out your password, they still couldn't get into your tech without a Nymi, or indeed you, rendering their hacking efforts futile. It's currently still in development, but we're eagerly awaiting its release. It will come in black, white or red and two adjustable sizes.



olloclip Studio

From \$49.99 (about £30) olloclip.com

What is it? iPhone photography has really taken off in recent years, with olloclip's lenses being right at the heart of the transformation. The latest offering from the company is not just a lens but a whole system allowing you to add a range of photographic extras to your humble smartphone.

When's it due? Get snapping in September 2015

Why are we excited? You can clip on lenses, flash, grip or even a boom microphone. With the iPhone's camera still improving, the olloclip Studio means that more than ever, the best camera is the one that's with you.



Thync

\$299 (about £190) thync.com

What is it? Although it looks like some sort of lobotomy patch, the Thync is actually a device that sends 'neurosignaling waveforms' through your body to calm you down or help you focus. Sounds mental? It is, in a way.

When's it due? UK release TBC

Why are we excited? It just seems so futuristic. A bit like that pill Bradley Cooper took in *Limitless*, the Thync claims to make you an energised, unstoppable machine. Or a super chilled out one, whichever you choose. We'd love a few for those ultra stressful deadline days!



Gloveone

From \$199 (about £130) gloveonevr.com

What is it? With all eyes on VR headsets, you'd be forgiven for thinking that's where every virtual reality company is focusing its efforts. But that would be to overlook the Gloveone, which purports to let you *feel* virtual reality as well as see it

When's it due? Shipping February 2016

Why are we excited? For as great as the idea of VR headsets is, it's an incomplete representation of virtual reality. Enabling users to feel the environment around them through haptic feedback is a step towards an immersive virtual world, rather than a rough virtual simulation, with applications beyond just gaming; such as medical and engineering uses.



Here

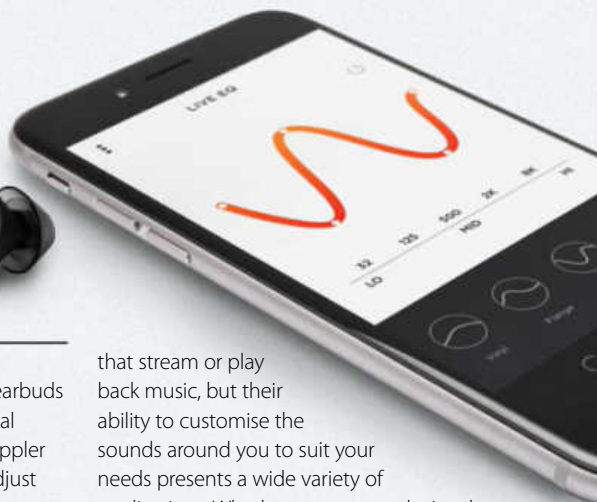
\$249 (about £160) dopplerlabs.com

What is it? Here is a set of wireless earbuds that allow you to 'instantly control real world audio' according to its creator, Doppler Labs. Each pair comes with an app to adjust real world volume, while it also has an equaliser and even a set of effects.

When's it due? Sounds out December 2015

Why are we excited? These aren't earbuds

that stream or play back music, but their ability to customise the sounds around you to suit your needs presents a wide variety of applications. Whether you want a device that can mute distractions, tweak live music or act as a discreet hearing aid, here could be the solution for iPhone users.



Think different

Decidedly off-the-wall



EasyPal

From \$239.99 (about £155) golferpal.com

What is it? EasyPal is a mechanised golf caddy, able to carry your clubs, balls, drinks and even your umbrella. It's the Optimus Prime of golf trolleys – simply push a button and out it folds, ready for eighteen holes of leisurely, Argyle-clad action. No word yet on whether it also compliments you on your swing.

When's it due? Heading to the driving range now

Why are we excited? Apparently having someone else carry all your gear is too much effort, as the EasyPal promises that 'zero work' is required to use it. Only in the world's most sedate sport would something like a caddy be deemed a burden... we like!



Rocki

\$49 (about £30) myrocki.com

What is it? If you've ever wanted a Bluetooth speaker but balked at the price, you're in luck. Simply plug a Rocki into any non-wireless speaker and it becomes a connected device. Rocki runs on Wi-Fi, providing a much stronger signal than Bluetooth and allowing you to stream any number of playlists from different sources to the same audio output.

When's it due? Available now

Why are we excited? Not only is it super affordable, but now there's no need to throw out your favourite old speaker just because it lacks wireless playback. For just £30 you can add wireless capabilities to your 80's ghetto blaster, saving you a packet in the process. Sounds like a smart choice.



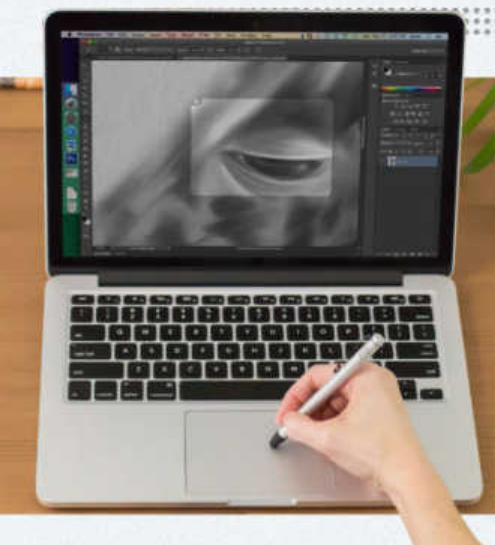
Inklet

From \$24.95 (about £15) tenonedesign.com

What is it? Technically it's an app, but Inklet makes your trackpad an even more awesome gadget than it already was by enabling you to use it as a graphics tablet. And if you're lucky enough to have a 2015 MacBook with a Force Touch trackpad, Inklet adds its pressure sensitivity into the mix.

When's it due? Available now

Why are we excited? Inklet taps into the fantastic job Apple has done with its trackpads and extends their functionality even further. For quick drawing jobs, Inklet is perfect and means there will be one less peripheral cluttering up your desk.



Enhance productivity

Enjoy music

Create your multimedia centre

Changing the way we see

POMERANIAN

Run your own personal cloud from the comfort and security of your home



DS215j features a dual-core CPU, supports up to 12TB of data and consumes less than 14w when active while the DS115j offers a stable storage environment for users with no need for raid, consuming less than 11w when active.

Synology NAS' and the intuitive DiskStation Manager (DSM) software allow users to sync and share files among multiple devices, including Windows PC, Mac, Linux, iOS, Android and Windows Phone.

Audio Station, Photo Station, Video Station and Media Server transform your Synology NAS into a centralised multimedia hub.

amazon.co.uk

The electronics specialist 
maplin

ios



PC PRO
Excellence
AWARDS 2014
SYNOLGY
BEST NAS DEVICE
BRAND

One more thing...

APPLE VERSUS GOOGLE

Is Steve Job's war on Google over, or has Tim Cook just changed tactics?



The humorist Jack Handey once wrote of a fight: "Even though he was my enemy, I had to admire his strategy. First, he punched me, then he

kicked me, then he punched me again".

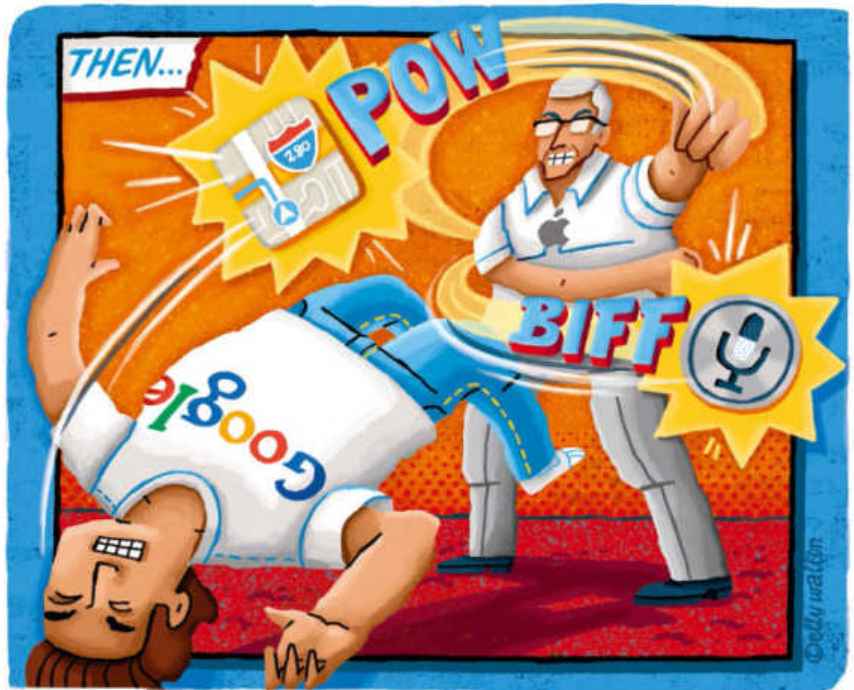
Tim Cook appears to be doing something similar to Google.

Biff! Maps is off iOS, replaced by Apple Maps. Pow! Siri's search goes to Bing, and inside apps. Whack! Spotlight in OS X El Capitan is designed to make Googling unnecessary. Smack! Proactive features in iOS 9 are like Google Now, but nicer.

And that's just the obvious blows. Elsewhere, Apple is offering an alternative to Google ads plus a new platform for publishers in the Apple News app, a rival to Google Play Music in the form of Apple Music, a payment system that works better than Google Wallet did, in the form of Apple Pay, and if reports are to be believed, alternatives to Google Street View. Not only that, but it intends to help block ads in iOS 9, something that strikes directly at the heart of Google, which still makes most of its money from them.

It's clear what's happening: Tim Cook is making good on Apple's belief that it should control the technologies it depends on, and if that means making Google's life more difficult then that's a bonus. Maps, music, wearables,

So why do we stick with Apple if the Google grass is greener?



home automation, search, advertising, publishing, in-car entertainment, software distribution... it's a growing list.

You can see how putting tanks on Google's many lawns might benefit Apple, but does it benefit us? The answer has to be a qualified yes, because – whisper it – the Apple Way isn't always the best way. I can't be the only one whose iTunes Match experience has been frustrating, unreliable and buggy, or who finds Google Maps more accurate and more useful than Apple Maps, or who finds Google's voice recognition more accurate than Siri's, or who would like to use a different mail application but can't persuade Yosemite to open anything other than Mail.app.

So why do we stick with Apple if the

Google grass is greener? The answer, for me at least, is simple: trust. We know that everything you do in Google is feeding its algorithms – Google Photos isn't free because Google's generous; it's free because Google wants as many images as possible to train its image recognition algorithms – and that more often than not *you're* the product Google is selling to others. That isn't the case with Apple, of course. Apple might not always have the best software or service, but it often has the more trustworthy offer.

Scots word-monger Gary Marshall has been playing with Apple Music. "If it had a theme tune, it'd be The Primitives' Crash", he says.

The UK's premier Smartphone & Tablet repair company

We fix all major brands

Apple iPhone • Apple iPad • Samsung Galaxy • Blackberry
HTC • Sony Xperia • Motorola • Nokia • LG • Asus

Liquid Damage Repairs • Insurance Appraisals
Data Retrieval • Firmware Repairs



same day repairs



parts available



12 month warranty

OTHER REPAIR SERVICES

iPod Repairs
Macbook Repairs
iMac Repairs
Smartphone Repairs
Laptop Repairs
Tablet Repairs
Barcode Scanner Repairs



We are on  

www.medwaymobiles.co.uk | 01634 405 662 | service@medwaymobiles.co.uk
Admiral's Offices, The Historic Dockyard, Chatham Maritime, Kent ME4 4TZ

Refurb iPhones

Are you
looking for a
professionally
refurbished
Apple iPhone or
Apple iPad?



www.refurbiphones.co.uk

REFURBISHED APPLES UK

With hundreds of happy customers and handsets sold, you can be sure you are dealing with the UK's leading supplier of professionally refurbished iPhones and iPads. We are a UK registered company offering competitively priced handsets and unrivalled customer service.

Our handsets are meticulously inspected, tested, checked and graded accordingly.

We offer 90 days warranty with supplied handsets and many later models still have remaining Apple warranties.

**MOBILE PHONE
REPAIR SERVICES**
www.iphonerepairsLtd.co.uk

**SPARE PARTS FOR
DIY REPAIRS**
www.pda-spares.co.uk



Recycle your magazine and seven days later
it could come back as your newspaper.

www.recyclenow.com



The possibilities are endless.

aamac
apple mac service centre

- **AppleCare Service and Support**
- **Hardware and Software Repairs**
- **No appointment required**



Premium
Service Provider



020 3189 2131

support@aamac.co.uk • www.aamac.co.uk
110 Stafford Road, Wallington, Surrey, SM6 9AY

Complete guide to Apple Music

Words: Alan Stonebridge

Apple's music streaming service brings big changes to its Music and iTunes apps. We'll help you make the most of them.



Apple has at last introduced a music streaming service that, for a monthly fee comparable to similar services

(see group test, *MF289*), gives you access to millions of songs by artists big and small. For £9.99 a month, or £14.99 to allow up to five other family members to use it too, you can explore hundreds of years of musical heritage and hear brand-new releases on your Mac, Windows PC, iOS devices and Apple Watch – and Apple TV and Android devices from the autumn.

We've focussed the majority of our tips on the iOS version because of the popularity of accessing music on portable devices, even if that's to send

listen to – both new releases and back catalogue material that fits your tastes. Apple Music tries to do this intelligently, based on some simple guidance from you when setting it up, explicit feedback you give it by marking things as 'loved', and your listening habits.

Apple Music also connects you to your favourite artists in the same way you might follow them on social networks. This doesn't require a subscription except to add audio from their posts to your library.

You might already follow artists on other networks, and right now many we've followed seem not to be posting to Apple Music, but in time you might find it a useful way to keep artists' musings separate from your actual friends.

Apple Music has a strong focus on helping you to discover new things among a library of millions of tracks

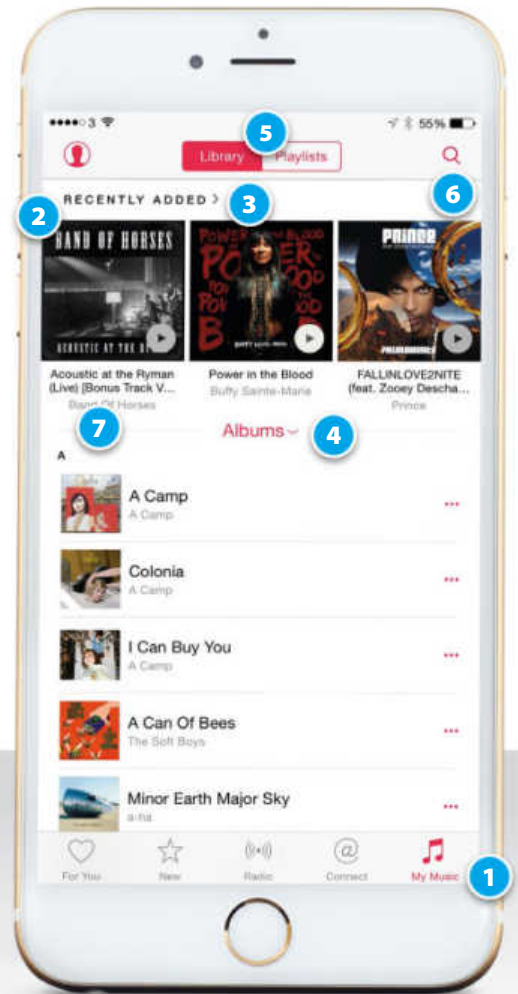
it to remote speakers. Most of this applies to iTunes 12.2 on the Mac too, though there are a few things that are possible only on one or the other.

The service is about more than just giving you a massive library of music to explore at your own leisure. It also includes the Beats 1 internet radio station (which doesn't require a subscription), genre-based radio stations (which do) and the feature formerly known as iTunes Radio, availability of which was previously limited to the US and Australia.

Just as important, there's a strong focus on discovering new things to

One thing that might strike you as odd about Apple Music is that it's so separated out from the iTunes Store. You'll need to type into a search bar to reach most of what's in its library, yet you can add things to your personal collection, where you can rate tracks, add them to playlists, and download it to play offline just like tracks you've bought.

You'll spot a new heart icon in Music and iTunes, and on your iOS device's Lock screen and Control Centre. It's crucial to getting the most out of the Apple Music when it comes to listening recommendations.



Browse your music

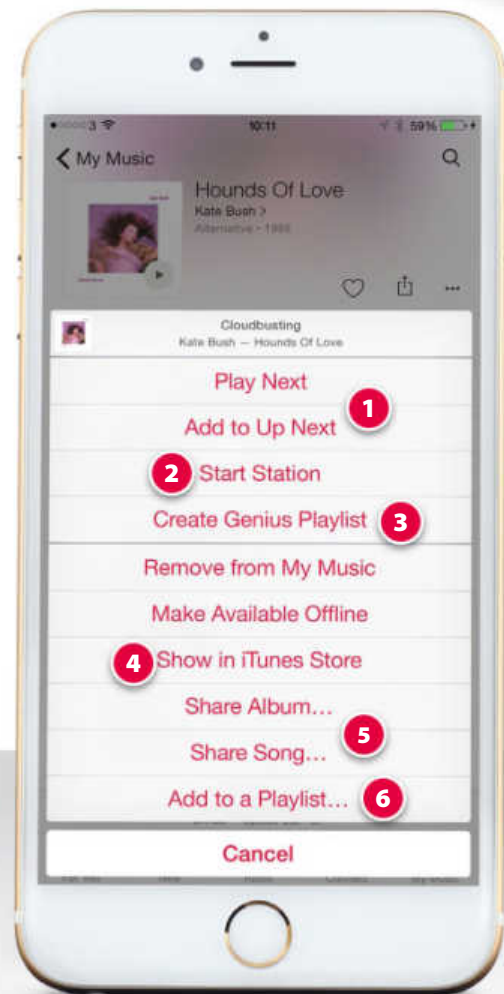
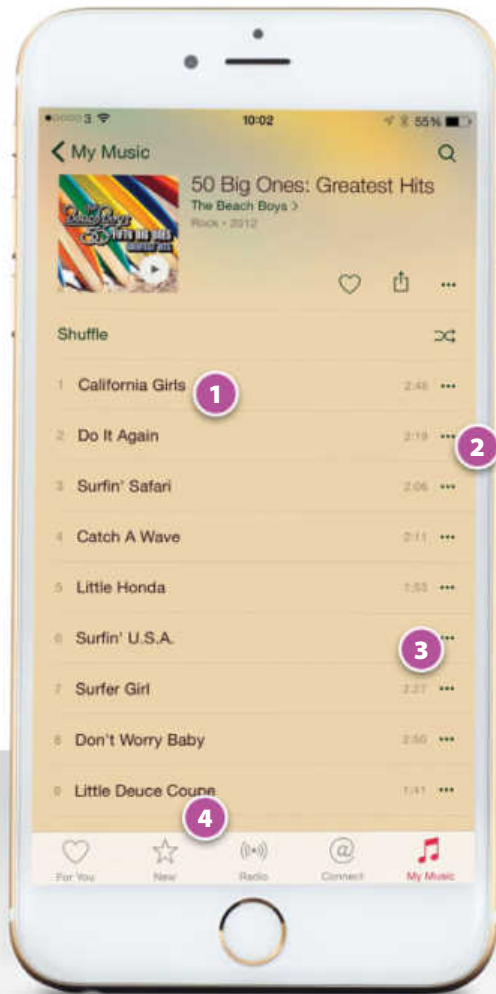
- 1 The views of your music that used to be in the bottom bar are consolidated in My Music.
- 2 This row saves you scrolling to or searching for things you likely want to hear a lot right now.
- 3 Tap a heading that shows a chevron to see more items.
- 4 Tap here to reorganise your music. (Sort your albums by title or artist in Settings > Music.)
- 5 Switch between your whole music library and playlists. Playlists move to the bottom bar if you turn off Apple Music.
- 6 Search your library or Apple Music's online collection.
- 7 Where you tap on an item matters. Large art shows an explicit play button, yet tapping elsewhere on it shows a track list. In the rows below, art is a play button, the rest of a row shows a track list.

New in iTunes 12.2

To use Apple Music on your Mac you'll need to update iTunes to version 12.2. Apple has already released a minor update to it, 12.2.1, which it says fixes a problem for iTunes Match subscribers that could cause

tracks to be incorrectly replaced with versions protected by digital rights management. It also fixes an issue faced by former Match subscribers, which requires you to follow a few steps – see <http://apple.co/1Jba9S9>. We've also

encountered problems with track number metadata in our existing library tracks being changed, so before using Apple Music, the usual advice about making a backup – in this case, of your whole library, is recommended.



Control playback

- 1 Tapping a track name plays it. If it's stored in the cloud, it's streamed to your device and cached until your device needs the space for something else.
- 2 Tap a More Options button (...) to download a track, an album, everything by an artist or in a genre. Tap the progress bar at the top of the screen to pause or cancel.
- 3 This triangle with a device icon in it identifies tracks that have been downloaded to play offline. The best place to manage them is in Settings > General > Usage > Manage Storage > Music. Cached items aren't shown there.
- 4 The Mini Player shows what's playing. You can pause and resume playback here, or tap the More Options (...) button to do something with the track. Tap the name to open the Now Playing view; its heart button tells Apple you love the track (see page 25).

Do things with your music

- 1 You can add items to the end of the playback queue, called Up Next, or insert one to play straight after the current track.
- 2 Stations can be started from tracks, albums or artists. They play music from Apple's library, and they're good for hearing new things that suit your mood.
- 3 A track can be used to start a Genius Playlist of music of a similar vibe from your own library.
- 4 Even with an active Apple Music subscription, you might still want to buy music to keep, or just to transfer from your Mac to another device that plays AAC files.
- 5 Share a link to an item to social networks and by methods such as email and AirDrop.
- 6 You can add items to existing playlists, but you'll first need to go to the Playlists view if you want to start a new one.

Get started

It takes just a few minutes to sign up and start listening to millions of tracks



When you first open the new Music app on iOS or iTunes 12.2 on your Mac, you'll be invited to enrol in a three-

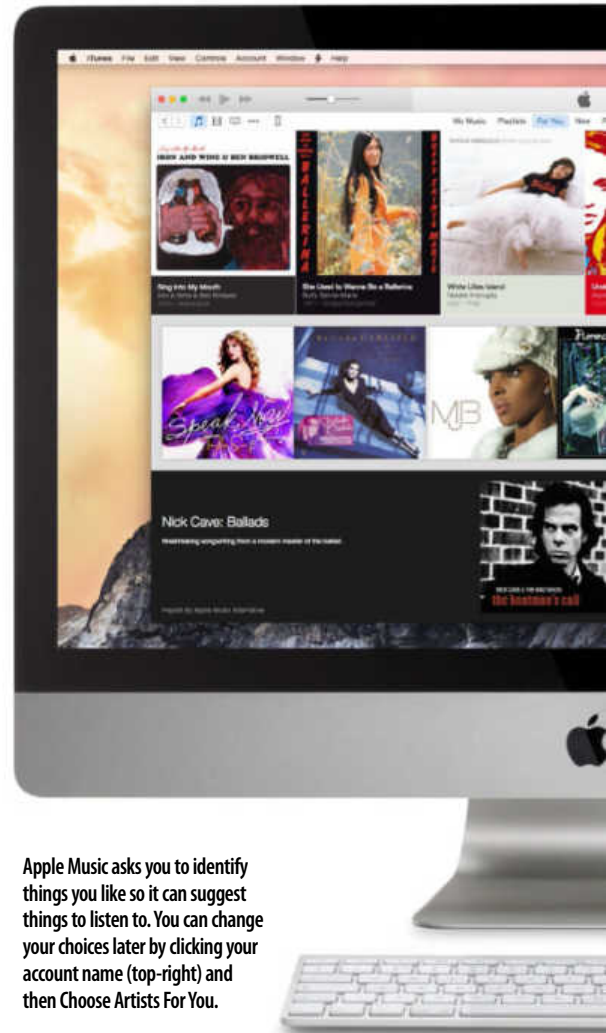
month trial of Apple Music. This requires that the Apple ID you use to sign into the iTunes Store has a bank card registered for payment, rather than just having credit on your account from iTunes gift cards, so that Apple has a means to take automatic payment for the monthly subscription past that trial period.

You don't have to take up an Apple Music subscription to keep using iTunes on your Mac or the Music app on iOS devices to play a combination of iTunes Store purchases and music bought elsewhere, and you can hide almost all of the new features – see page 25. If you later decide to try it out, you can make Apple Music visible in your apps once again and then go to

the For You page to start your trial from there.

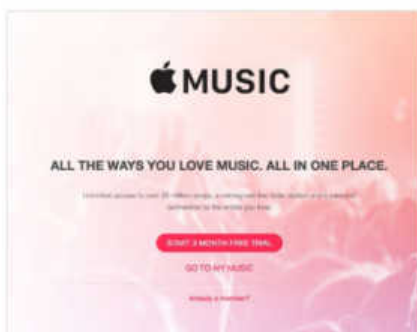
If you have a subscription to iTunes Match – or were planning to sign up to it to make your music collection, including tracks not bought from the iTunes Store, available to download from all your devices – Apple continues to offer that annual service. Its functionality is also part of Apple Music, so if you decide the extra features of the newer service are worth the total annual cost being more than five times as expensive, you should check and consider turning off automatic renewal of Match before the end of your current subscription period – do that in the same place as you manage your Apple Music subscription (see page 27).

However, if it's Apple Music that you're uncertain about subscribing to in the long term, you should also see page 27 for how to avoid automatically paying for it after your trial period.

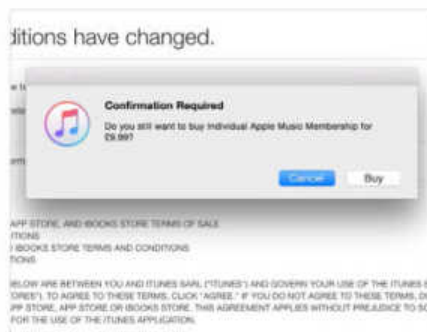


Apple Music asks you to identify things you like so it can suggest things to listen to. You can change your choices later by clicking your account name (top-right) and then Choose Artists For You.

HOW TO | SET UP APPLE MUSIC ON A MAC



1 Choose your plan
iTunes will prompt you about a three-month Apple Music trial. If you don't accept right away, click For You at the top of the Music view later on. Otherwise, click the button that starts the sign-up process, then choose an individual or a family membership (the latter requires Family Sharing to be set up – see <http://apple.co/1gJBLJ> for details).



2 Account management
You'll be asked to accept Apple's latest terms and conditions and confirm the purchase of a membership plan because signing up for the trial automatically enables recurring payment at the end of it. If your Apple ID is part of a family and you aren't its organiser, you'll be asked to accept that an Ask to Buy request will be sent to them.



3 Say what you like
Click once on the circles of genres you like, twice on those you love, or put the pointer over those you dislike and click the cross that appears. Your choices influence the artists suggested when you click Next. Repeat the process, clicking More Artists if necessary. You only need to identify three you like, after which you can click Done.

Playlists

Now you can make playlists even more personal, and listen to curated collections



You might think there's little else Apple can do with playlists, but Apple Music's social side means there are new features worth knowing about.

Custom artwork

When you create a playlist (either on iOS or in iTunes on a Mac), there are a couple of new personalisations you can make besides its name. If you're

Playlist management

You can create folders to organise your playlists using iTunes on a Mac or a PC; the Edit button above the list of them on iOS just lets you delete things, but with iCloud Music Library turned on, effort from your Mac is synced to your iOS devices. (You still can't make Smart Playlists on iOS either.)

Filter your playlists

By default, both your playlists and those created by Apple Music's staff to

You can add a photo, or artwork made created using an app like Pixelmator, to make your playlists even more personal

going to share the playlist, you might want to fill out a description for others to read. Tap the camera on the artwork placeholder to add your own artwork – either by taking a new photo, or by picking artwork you've already stored in the Photos app.

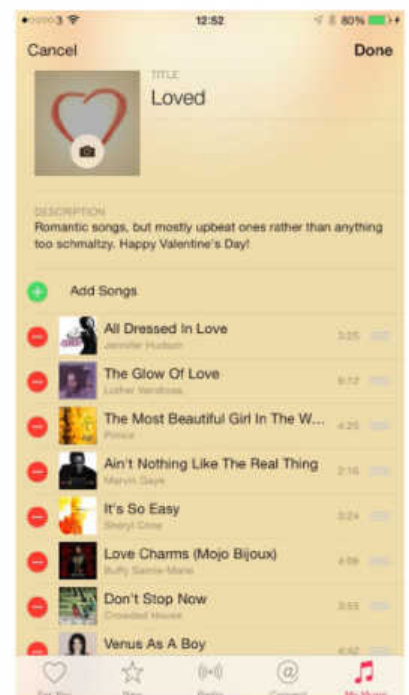
Share a playlist

You can share a link to a playlist on social networks or privately by tapping the More Options button next to a playlist in the master list of them, or the Share icon if you've already tapped through to see one's contents. When you choose Share Playlist, the preview will include your assigned artwork, but Facebook currently just displays 'Connecting to the iTunes Store', so it's wise to replace the status update the app provides to explain to people what the link will take them to.

Recently added

Just like the My Music view, there's a shortcut to recently added playlists – your own and those curated by Apple Music's staff (in the For You page). To save an Apple Music playlist from the For You page so it's easily accessible here in future, tap the More Options button above the playlist's description and choose Add to My Music.

which you've subscribed are shown. Though you can't file them in folders on iOS, tapping All Playlists above the list prunes what's shown to just the type you want to search through.



Curated playlists are a major aspect of Apple Music, and you can get in on the act by sharing yours – complete with custom artwork and descriptions.

iTunes Match

Apple Music includes the capabilities of iTunes Match, making tracks in the iTunes library on your Mac available to stream to all your devices no matter where those tracks came from. It does this by first matching tracks to those available in Apple's library, and secondly uploading any it can't match to your iCloud Music Library. All of those tracks are then available to play on all of your devices, but there's still a 25,000-track limit on the latter type, just like in iTunes Match. Eddy Cue, Apple's Senior Vice President of Internet Software and Services, recently tweeted that Apple is working to increase this number to 100,000 tracks by the launch of iOS 9 later this year. If you already subscribe to Match, there's currently no rebate on the dupe functionality in your Apple Music sub.

SUBSCRIPTIONS

Manage

ITUNES IN THE CLOUD

iTunes Match Renewal
Renews 15 Dec, 2015



Connect

Keep up with what your favourite artists are doing in the studio and on the road



The Connect page is a place for you to read, watch and listen to updates posted by your favourite artists and other people involved in the music industry.

Choose whose updates you see

As well as the artists you identified when setting up Apple Music (see page 22), the app will have followed artists whose music you've previously bought from the iTunes Store on your behalf – even if you purchased just one track. You'll probably want to review that list to unfollow artists you don't really care much about; tap the silhouette-like

can also post demos and unreleased tracks. An Apple Music subscription enables you to save music to your library so that you don't have to find it again in Connect to hear it. Artists can also link to playlists which you can also add to your library to hear later.

Interacting with artists

Below each post are three icons. The heart expresses to the artist that you like their update. Tap the speech bubble to give personalised feedback, and to read other people's. Third is iOS's familiar Share icon, from which you can post a *link* to the update to social networks or send it privately.

If you see an objectionable comment, swipe leftwards on it to report it to

Artists can post photos, videos and songs to Connect, including demos and otherwise unreleased tracks

account icon at the top-left corner of the screen, then Following. To follow only artists you manually choose to, turn off the Automatically Follow Artists switch at the top of the page. Below that, you can amend the list of people you're following, or tap Find More Artists & Curators to add from an ever-growing list of people.

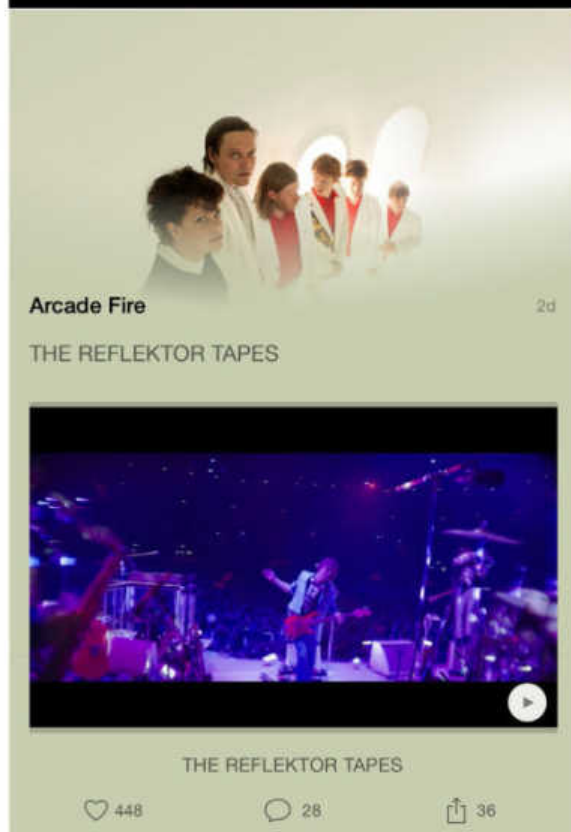
Read artists' updates

Artists can post photos, videos and songs to Connect. For songs, this might be stuff that's available to stream using your Apple Music subscription (or to buy from the iTunes Store), yet artists

Apple's moderators. Similarly, issues with content and playback can be reported by tapping Report a Concern at the bottom of the list of comments.

Reserve a username

Every comment shows a person's name and, optionally, a unique, Twitter-style nickname. Set these by tapping the account icon at the top-left corner, tap Edit, then tap the corresponding rows. You can also add a profile picture; Right now, this isn't shown next to comments, but bear in mind that might change in future. (Your name is also shown on playlists you share.)



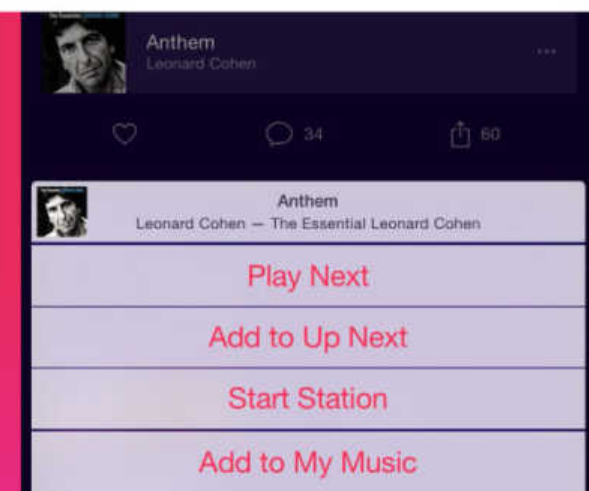
Connect might get crowded if you follow many artists. Tap an artist's name to see just their posts. To see if someone not shown has posted, tap the magnifying glass, type their name, tap them in the results and see if a Connect tab is shown.

Exclusive to subscribers

The only features you can use without a subscription are the ability to follow artists on Connect and view their updates, and access to Beats 1.

Subscribing has several benefits beyond access to millions of tracks. You can save tracks to your device to

play when you're offline (DRM means they can't be played if you end your sub). You can play and save songs from Connect, get suggestions in New and For You (see opposite), and discover even more with additional radio features (see page 26).



New and For You

Discover a mix of new artists and music you might have overlooked in the past

The New and For You pages are key to discovering new music. The former shows new releases, much like the front page of the iTunes Store and is worth checking out from time to time if you find that you rarely visit the store after subscribing to Apple Music. However, bear in mind that not everything that's sold in the iTunes Store is available in the Apple Music library.)

The New page has numerous categories for you to explore, some of which are persistently featured, while others are timed to major events in the music industry calendar. It works well

Playlists banner to find collections from well-known music publications.

A personalised touch

The For You page should more quickly guide you to suitable sounds, old and new, because its contents evolve in response to information you feed back to Apple. It draws on what you've said you love (by tapping the heart icon next to a track, album or one of Apple's playlists) and by what you listen to.

The page suggests specific albums and curated playlists, such as introductions to artists, but it doesn't cross-reference the former with what you own; some of the MacFormat team have found we already own as many as

The For You page's contents evolve in response to information you feed back to Apple as you listen to things

as a summary, but with so much scrolling and tapping and no guarantee that you'll find anything you like, discovering music this way can feel like a lot of work, so you might not want to give up on any music journals or websites that you've identified as providing great insight into what *your* ears will like – however, tap the Curator

half of its album suggestions.

You can provide negative feedback to influence future recommendations by holding your finger on an item and choosing I Don't Like This Suggestion. This works for albums and playlists on iPhone, but strangely only for albums on iPad – and the capability is missing entirely on the Mac at present.

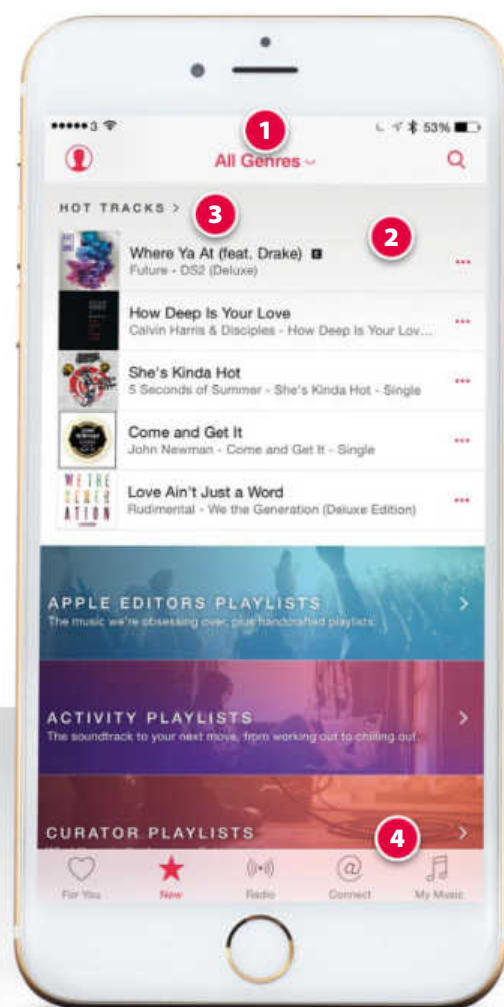
What if I don't want Apple Music?

You can hide the majority of Apple Music's features. First of all, go to Settings > Music on iOS, or iTunes > Preferences > General on a Mac. Turn off Show Apple Music here to hide the New and For You pages. This also moves playlists to the bottom bar on iOS, rather than them being tucked into a tab within the My Music page.

Connect is disabled separately because you might still want to see artists' updates. If not, go to Settings > General > Restrictions on iOS and

turn off Apple Music Connect, or iTunes > Preferences > Parental on a Mac and disable the feature there.

You're still left with the Radio tab because you can listen to Beats 1 even without a subscription. However, the other radio features – other curated stations and the ability to create personalised stations using an artist or a track as an indication of what you want to hear – require a subscription in most countries (<http://apple.co/1GstJTP>).



Explore new releases

1 The New page defaults to showing music of all kinds. You can narrow it to suit your tastes, or just what you're looking for right now, by tapping All Genres at the top of the page and picking a more specific type. The list of genres, like the one in the iTunes Store, lacks some obvious categories, such as folk, easy listening and indie rock, so you'll need to make educated guesses about where such sounds fall within Apple's broader categories. Also note of the explicit New Artists genre, should you want to get off the beaten track.

2 The page includes a mix of different items, including individual tracks and hot albums. Scroll down a little way and you'll find page-wide banners that take you to special playlists containing

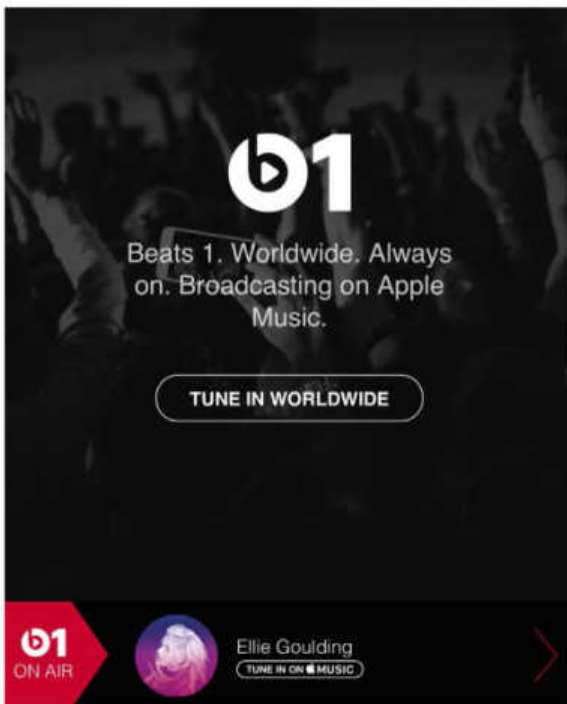
what Apple's music editors are into, music suitable for activities such as driving, exercising and to wake up to, and from music mags and sites.

3 Remember, there's more to discover than is initially shown, so watch out for chevrons next to category headings.

4 Scroll down to the bottom of the page to find A-Lists, which gather notable tracks from various genres. Apple's descriptions for them suggest they're compiled from tracks released in the current week, but at launch we found Taylor Swift's *Shake It Off* and other tracks released over the last few months, suggesting A-Lists might be a good way to catch up on what's popular, much like *Now That's What I Call Music!* albums.

Beats 1 and Radio

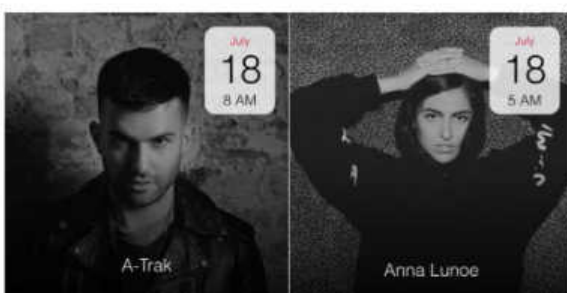
Apple is now a broadcaster thanks to its worldwide internet radio station, fronted by renowned music DJs like Zane Lowe



Beats 1 Anchors. Always On.



July Lineup



T

he centrepiece of Apple Music's radio features is Beats 1, a radio station that broadcasts exclusively over the

internet. If it doesn't suit your mood, you can listen to genre-based stations that play continuous mixes, or identify a sound you like to hear a personalised station that fits your mood.

Worldwide, always on

Naturally, Beats 1 is the top item on the Radio page. You can start listening to it right away using the Listen Now button or, on iOS, tap any other part of the banner to find out what's playing right now, over the next few hours, and to read about regular shows.

At the top of that page, tap Complete Schedule and you'll be taken out to <http://applemusic.tumblr.com>. Scroll down past the station anchors and other details that are also presented in the Music app and you'll find a listing of forthcoming guest presenters.

Apple says Beats 1 isn't dedicated to a particular kind of music, just stuff that is new and great. There are a few

for countries where you can do this, which are listed at <http://applemusic.tumblr.com/requests>.

Playlist history

Scroll down the Beats 1 page in iOS's Music app to find featured shows. (This is one of the things that's currently missing from iTunes on the Mac.) Tap one of these shows and you'll be shown a list of previous episodes; they're labelled as playlists because you can't listen to the whole show with presenter commentary, but you can see what the presenter played and add an entire playlist or cool individual tracks you discover to your music library for easy access in future.

Note that Beats 1 presenters are able to post to Connect. Tap the Connect tab at the top of their show page to see what they've posted in the past, and tap the Follow button if you want to see their posts alongside those of artists in the Connect tab without returning here.

Themed stations

Further down the Radio page you'll find a selection of themed and genre-

An Apple Music subscription is not required to listen to Beats 1, but is needed for other radio features

ways to go if the station isn't playing the sort of things you want to hear.

Request songs

You can try to influence what Beats 1 plays by requesting a song, but only in a rather old-fashioned way: by picking up the phone and calling in to an automated system that records your name, location and the song you want to hear. Apple provides local numbers

At the top of the Radio page on iOS, tap the link that says 'Complete Schedule' or go to <http://applemusic.tumblr.com> on a Mac. The interesting thing here is near the bottom of the page: a line-up of guests who will host Beats 1 shows over the next few weeks.

oriented stations that play continuous mixes. These are a good way to revisit classics you might have forgotten about, and to discover new things.

When listening to these stations or Beats 1, remember that you can send feedback to Apple about tracks they play, just like you would for tracks you find by searching manually or in the New or For You pages; use the heart icon in the Now Playing view (on iOS) or at the top-right of iTunes' status area, or use the More Options button if you simply want to add a track to your music library without it influencing future suggestions.

We've found it useful to create at least one playlist with a name like 'Music from Radio' and add individual tracks to it. This still adds them to your library, but it gives you a consolidated list of all those one-offs you might later want to remove from your library. To quickly do that, open the playlist in iTunes on your Mac, select some or all of the tracks in it, then press + and confirm their – not just from the playlist, but from your library and all devices to which the tracks have already been downloaded.

Make your own station

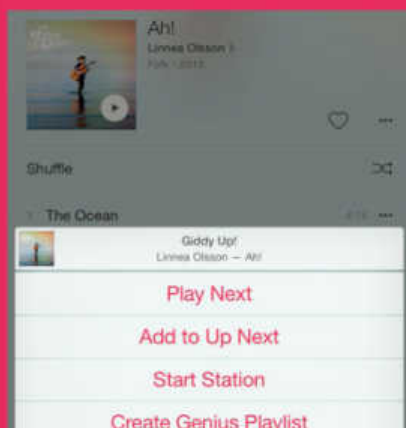
There is one more type of station, and it gives you more direct influence over the kinds of things it plays. Use the More Options button next to an item, or in iOS's Mini Player or iTunes' status area (when you place the pointer over it) and you'll find an option to start a station. (iTunes provides two options: New Station from Artist and New Station from Song). This tells Apple to use that song the basis for

a station that plays a continuous mix of other tunes which Apple's analysis of people's listening habits suggests will go well with your choice.

Unlike Genius Playlists, these stations play tracks from Apple's library rather than your own, which makes them a good way to match your mood while also hearing a mix of the familiar and stuff that's new to you.

You can offer feedback if you find that some tracks served up don't hit the mark. When listening to a personalised station, the playback controls include a star icon. Interacting with the star reveals several actions you can take. The option to add the current track to your Wish List is an odd throwback to when the feature was known as iTunes Radio (and available only in the US and Australia). Open Up Next while and you'll see that it doesn't show much. That's because at any time you can influence future songs the station will play by using the other options behind the star button to give feedback about the current song.

Create a personalised station

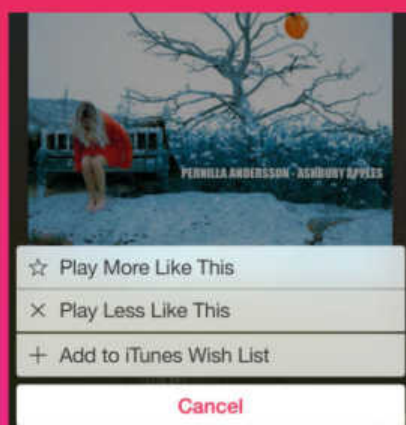


1 Starting point

Find an item to use as the starting point for your station. It can be an artist, an album or an individual track. Tap the More Options (...) button next to that item and choose Start Station. When you play a station – of this kind or one of Apple's – it is added to the Recently Played row near the top of the Radio page. Tap that heading to revisit more stations you've played before.

2 Give feedback

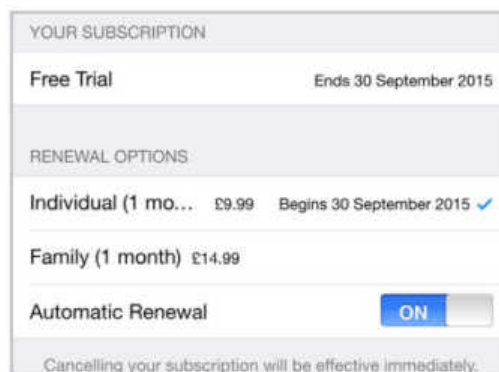
Accessing the Up Next queue while a personalised station is playing doesn't show much in the way of upcoming tracks. That's because you can influence future selections at any time using the star button. Unlike the heart button, which tells Apple you really love something, the star enables you to offer positive or negative feedback about any track your station plays.



End your subscription

When you sign up for a free three-month trial of Apple Music, it is set to convert to a rolling monthly subscription after that period. You don't have to accept this, yet you can still continue the trial period.

To cancel automatic renewal on iOS, go to Settings > iTunes & App Store, tap the top row



If you're uncertain about Apple Music's usefulness, you might want to turn off automatic renewal until you decide, to avoid paying a penny.

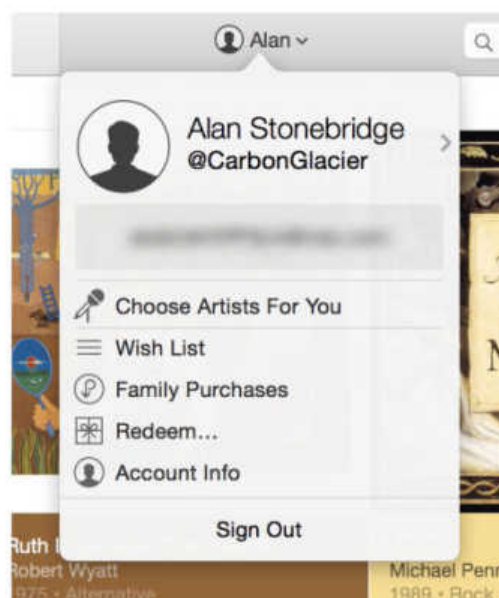
(which shows your Apple ID) and choose View Apple ID. In iTunes on your Mac, click your name near the top-right corner of the window and choose Account Info.

When prompted, enter the password for your Apple ID. On the next page, look for Subscriptions and choose Manage next to it.

On iOS, tap the row that mentions your Apple Music membership, or click Edit to the right-hand side of it on a Mac, and then turn off Automatic Renewal. In the same place, you can switch your subscription between being for you as an individual or for your family.

Note Apple's warning on this page that cancelling your subscription will take effect immediately. For a summary of what you'll lose, check Apple's overview.

In iTunes, your subscription settings are accessed through your name (or Sign In) next to the search bar at top-right of the window.



Ask Siri...

Your voice-controlled assistant is a convenient way to work with Apple Music when the touchscreen isn't

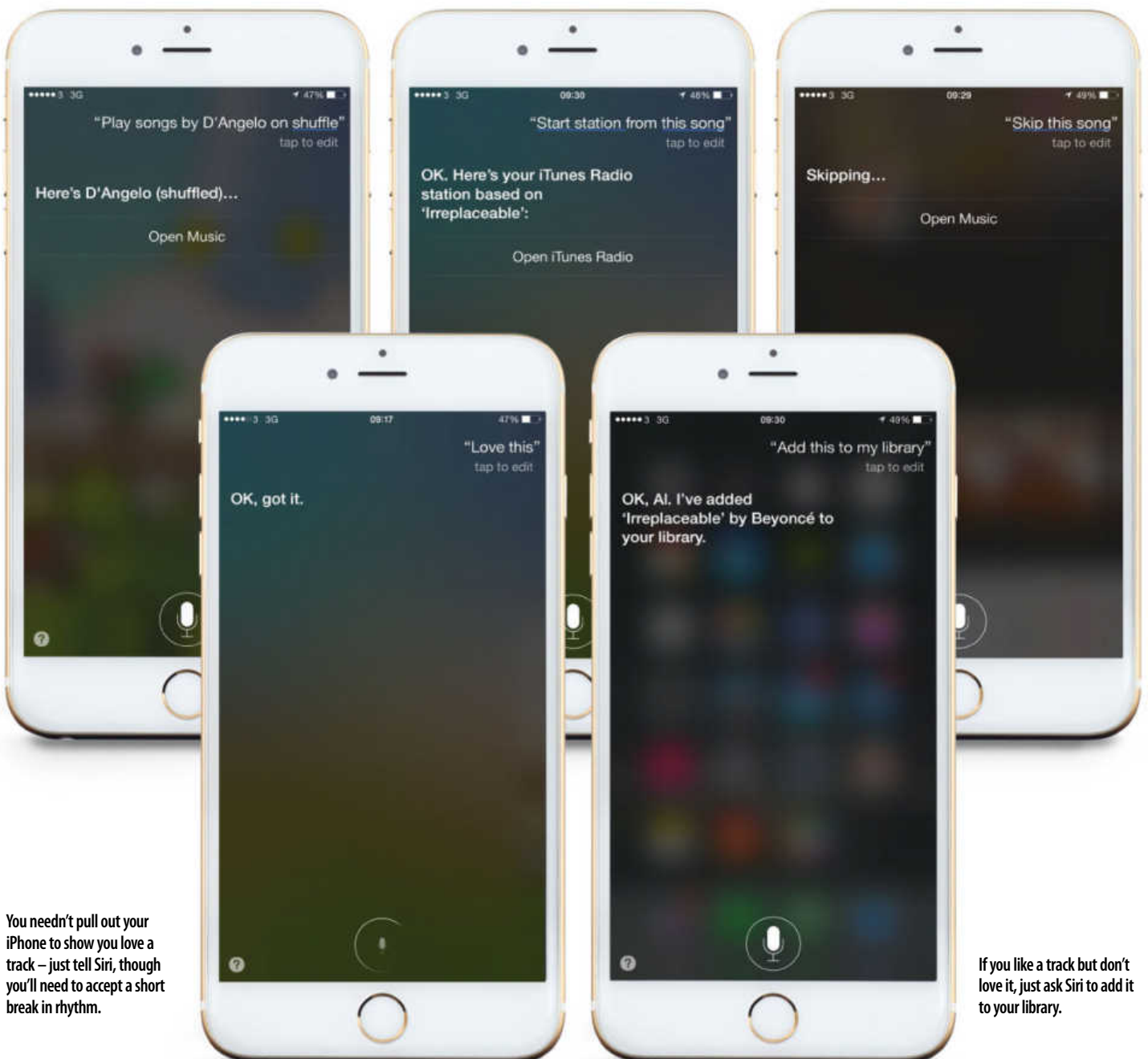


Touchscreens are certainly a nice way to browse a large music collection, but there are times when you'll want to react to what's playing without having to pull your iPhone out of your pocket. You might want to tell the Music app that you love a track that's playing on Beats 1 or, in the

case of personalised stations, that you want to hear more or less stuff like the current track. Siri makes this possible.

Just tell Siri you love a track. When you're listening to playlists and stations curated by Apple Music's staff, you might not even know what a track is or who it's by. Just ask Siri what it is. If you thoroughly dislike a track, or just don't want to hear it right now,

you can tell Siri to skip it. Conversely, you can tell it to add a track you like to your library (remember to use this instruction instead of marking a track as loved if you don't want it to influence what's shown on the For You page.) You can even tell Siri to play hits from a specific year, and don't forget general commands, such as adding an extra instruction to shuffle playback.



You needn't pull out your iPhone to show you love a track – just tell Siri, though you'll need to accept a short break in rhythm.

If you like a track but don't love it, just ask Siri to add it to your library.

Technology
Tips Guide

iTUNES & iCLOUD

547 TIPS FOR MASTERING APPLE'S
MEDIA APP AND CLOUD SERVICE

148
pages of
practical
advice



FREE

Digital version
with this
book!



AirPlay



Available at all good newsagents or visit

www.myfavouritemagazines.co.uk/computer





Words: Nik Rawlinson Illustration: Paul Blachford

iCloud Secrets

Flexible, friendly and free... Apple's online service is finally all grown up. Here's how to get the most out of it on iOS and OS X

A pple's iCloud is one of the simplest, best value and most flexible online services going. It's more than just a

space to store your files, but a series of apps, a robust communication system and an ever-expanding set of features that enhance our daily lives as Mac and iOS users, wherever we are in the world. Getting here has seemed a long, hard slog, though – with several false starts.

Apple's innovative eWorld service lasted less than two years, MobileMe was poorly received, and iCloud, MobileMe's eventual replacement, didn't seem to offer that much at launch. But now it's the thing that binds the iPhone, iPad and Mac together, and with the advent of Apple Watch it underpins a vast range of under-the-hood services that we barely even think about. Set a reminder through Siri and it's sent over iCloud. Plan a route in Maps on your Mac

and iCloud sends directions to your iPhone – and ultimately to your Watch. Use Handoff to move work between devices and your iCloud account is instrumental in authenticating which of those nearby are owned by you. iCloud also silently makes your iTunes and App Store downloads available on all your devices, syncs your iBooks page turns, and manages website accounts in a keychain.

Over these 11 pages we'll be looking at every iCloud feature in detail to help you get the most out of them.

iCloud binds the iPhone, iPad and Mac, and with the advent of Apple Watch it underpins many services we barely think about

Setting up and restoring

Backing up is secure and pain-free, so there's no excuse for lost data

Backing up your iOS device to iCloud not only keeps your data safe, but also lets you transfer it quickly and easily to a new device. iOS backs up your data whenever your device is plugged in, locked and connected to Wi-Fi, so you can literally set it up and forget about it until you need to restore your files.

Turn on iCloud Backup in Settings > iCloud > Backup. When your device is next connected to a power supply it will back up, but you can tap Back Up Now to force it to do so right away.

HomeKit configuration and, if your mobile network supports it, your Visual Voicemail.

Things like email, contacts and calendars, which are already stored online by iCloud features, are omitted. They are restored simply by turning on the relevant switches in Settings > iCloud. Data from third-party cloud services is also excluded. Your photos and videos are backed up only if you haven't turned on iCloud Photo Library (see page 32); otherwise, they are treated like the other things just mentioned.

The things included in backups eat into your available storage. That's just 5GB on iCloud's free

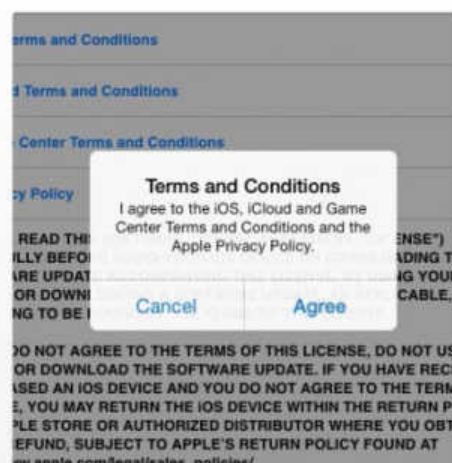
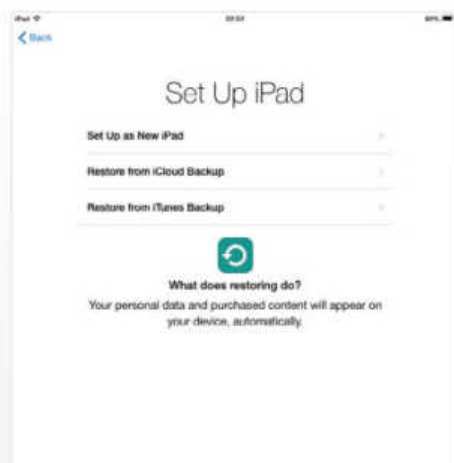


iOS backs up your data whenever your device is plugged in, locked and connected to Wi-Fi

iCloud backs up your purchase history from all of Apple's download stores (you can redownload the purchases on demand), device settings, app data, the layout of your Home screens, messages (iMessage, SMS and MMS), ringtones, health data,

plan, so you may need to upgrade to a paid plan in Settings > iCloud > Storage, or exclude apps by tapping Manage Storage, the device you're using, and turn off the switches for apps whose data you don't want to back up from that device.

How to | set up and restore with iCloud



1 Restore from iCloud

If you've got into the habit of backing up your iPhone or iPad to iCloud, you can safely reset your device and restore the data at a later date, which might resolve problems. However, you can also use your backup to transfer everything to a brand new device if you're upgrading. Tap through the set-up screens and when you get to Set Up iPad (or iPhone), simply tap 'Restore from iCloud Backup'.

2 Sign in to iCloud

Naturally your iOS device doesn't know who you are yet, so enter your Apple ID and password. These must be the same as the ones you used on the device from which the backup originates, or iOS won't be able to find your stored data. You're effectively setting up iCloud on a new device at this point (even if it's been used on it before) so you'll need to agree to the terms and conditions again.

3 Restore your data

iCloud can store multiple backups, allowing you to roll back devices to various states. The setup process will show you the most recent backup from each device, but if you want to roll back further, tap the link below the list to dig deeper into your history. When you've found the backup you want, tap it and wait for the data to download from Apple's servers and install on your device.

What else can you do?

iCloud can do much more than backup and restore

Y

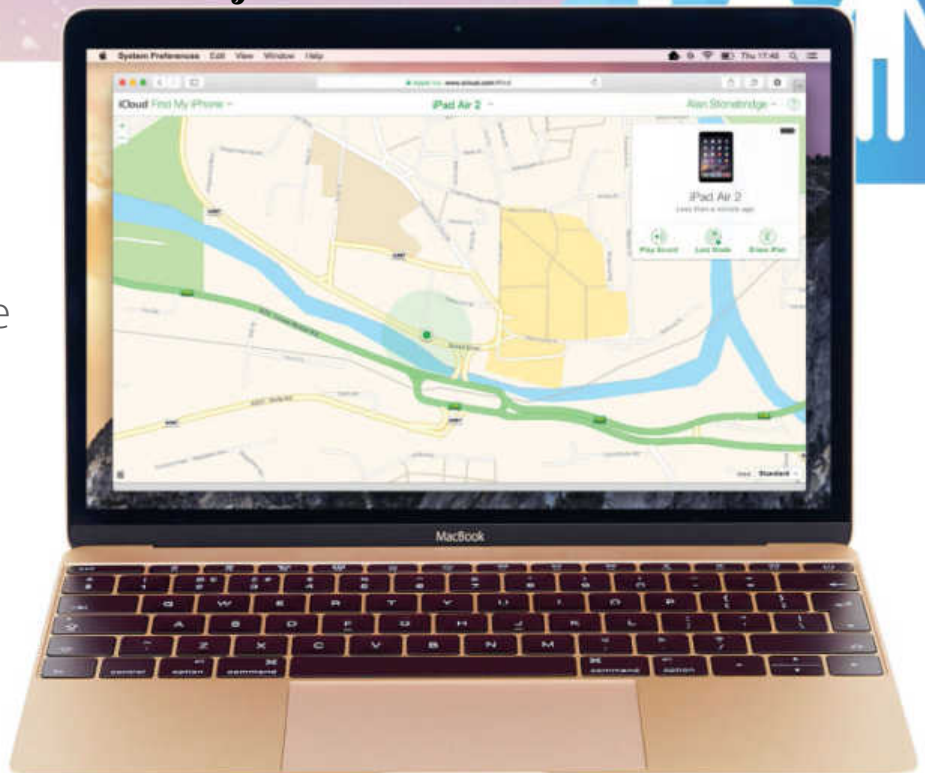
ou could describe iCloud as the hub of your online life, and it's fair to say that your Mac and iOS devices would not be nearly as flexible or useful without it.

Find my...

Tracking services like Find My Friends and Find My iPhone (the latter of which can also locate a Mac, iPad or iPod touch) would be a security risk if the data wasn't transferred securely. That's why it's processed by Apple's servers and only available to those whom you've granted access. Invitations and follow requests are sent from one device to another via iCloud, and must be authorised using an Apple ID to secure the system from end to end.

To set up lost device tracking on iOS, go to Settings > iCloud > Find My iPhone (or iPad) and ensure the switch is turned on. Optionally, also enable the Send Last Location feature, which will automatically upload the device's current position shortly before its battery runs out, which may help to track it if it powers down after being lost. To enable tracking on your Mac, open the iCloud pane in System Preferences and check the box beside Find My Mac. Your tracked devices appear on a map in your iCloud account at icloud.com.

Family Sharing saves you buying multiple copies of media and apps for different family members.



You can track Macs, as well as iOS devices, through their connections to iCloud.

icloud.com/find (accessible on a PC or a Mac), and through the Find My iPhone app for iOS.

Family Sharing

The ability to share your apps, iBooks and iTunes purchases with five other people in your family is a relatively recent addition to iCloud. (You might find that content providers have excluded certain items from this benefit, or failed to update usage rights for older items.) The Ask to Buy feature lets parents approve kids' attempts to buy content, which is paid for using the family organiser's bank card. Family Sharing also gives you a means to share photos with each other, and to coordinate using a shared calendar.

Once set up in iCloud's settings, family members can access each other's purchases

Family Sharing allows you to share your apps, iBooks and iTunes downloads with five other people

alongside their own, in the store apps in iOS and in the iTunes Store on a computer.

If you've bought mature content, you can restrict access to it by setting up age restrictions in iTunes > Preferences > Parental (also do this in Settings > General > Restrictions on an iOS device). This merely stops the young downloading inappropriate content. You can hide items from the list using a Mac or iOS device, but this hides them for you too. You can unhide them (in Account > View Account).

Also, Family Sharing is the only way kids under 13 can legitimately have their own Apple ID – so long as it's set up by a parent or guardian.

Best of the rest

You can access email, calendars, the iWork apps and more from any PC or Mac at icloud.com, and enjoy your iTunes purchases on all your devices. The latter is particularly useful if all your devices aren't set to automatically download all your purchases – they're shown in your iTunes library and the Music and Videos apps on iOS, ready to download. With an iTunes Match or Apple Music subscription, even tracks from CDs and other music stores will be accessible on every device.





iCloud Photo Library tips

Photos syncs all your images... and your edits

Photos, which started life on iOS and is now on OS X, is Apple's replacement for iPhoto and Aperture on the Mac. It automatically syncs your photo library to iCloud, so every shot is available on all your devices.

Synchronise your iOS device's photo library by going to Settings > iCloud > Photos. Make sure the switch beside iCloud Photo Library is turned on and choose whether you want to keep optimised versions on your iOS device, or uncompressed full resolution originals. Either way, the full quality originals are stored in iCloud.

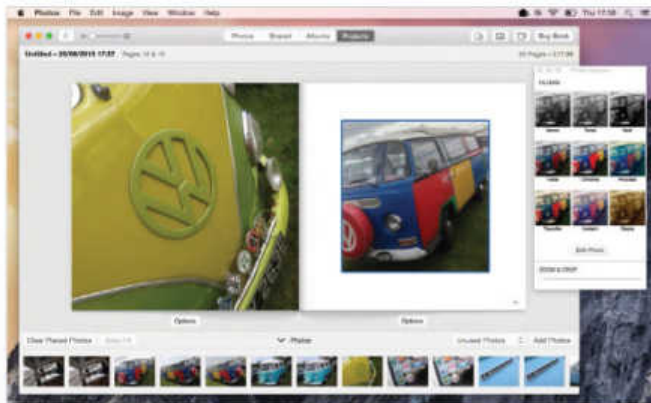
To edit a photo, select it, then tap Edit. On iOS, as well as cropping, applying a filter and

automatically enhancing your shot, you can tweak the colour, light and monochrome style. (OS X lets you do more, as you'll see in the tips on this page.) When you edit an image, Photos just tracks your changes and applies them on the fly. You can roll back to the original at any time by editing again and choosing Revert. Your changes are synced to iCloud and made visible – and revertible – on any of your devices.

By default, your Mac user account's System Photo Library, which is the only one synced to iCloud, is stored in your Pictures folder. If your startup disk is low on space, you can move the library to another drive and double-click it there to open it in Photos, then click 'Use as System Photo Library' in the app's General preferences.

Edit on the page

➔ When creating a photo book, you can apply filters on the page rather than tweaking the copies in your library before you place them. Drag them from the filmstrip onto a page. Double-click that page to enlarge it, then the image on the page to edit it, apply a filter and adjust its framing.



More flexible editing

➔ Access Photos' full range of editing tools by selecting an image and clicking Edit on the toolbar, followed by Adjust in the sidebar. This launches with only three options: tweaks for light, colour, and black and white. Add others by picking them from the Add menu at the top-right. Notice the blue tick that appears beside any setting you've adjusted. You can click this to toggle the effect off or on to see how it affects your picture.

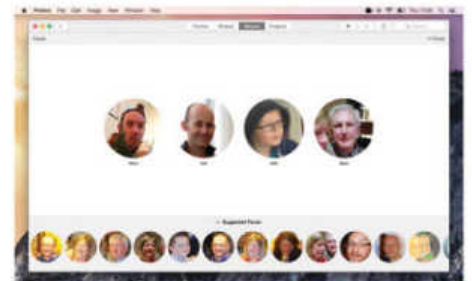


Take a break

➔ Setting up Photos for the first time involves passing a lot of data back and forth between your devices and the iCloud servers. If your connection is straining, the process can be suspended on a Mac in Photos > Preferences > iCloud by clicking 'Pause for One Day'. It can be resumed sooner in the same place, perhaps to let it finish overnight.

Private Libraries

➔ You can set up multiple discrete libraries on your Mac, but only the System Photo Library is synced to iCloud and your iOS devices. Use this to your advantage to create a separate library of images you want to keep on your Mac by holding ⌘ while opening Photos. This displays a window from which you can choose the library that the app opens. Here you can create a new library, or import an iPhoto or Aperture library.

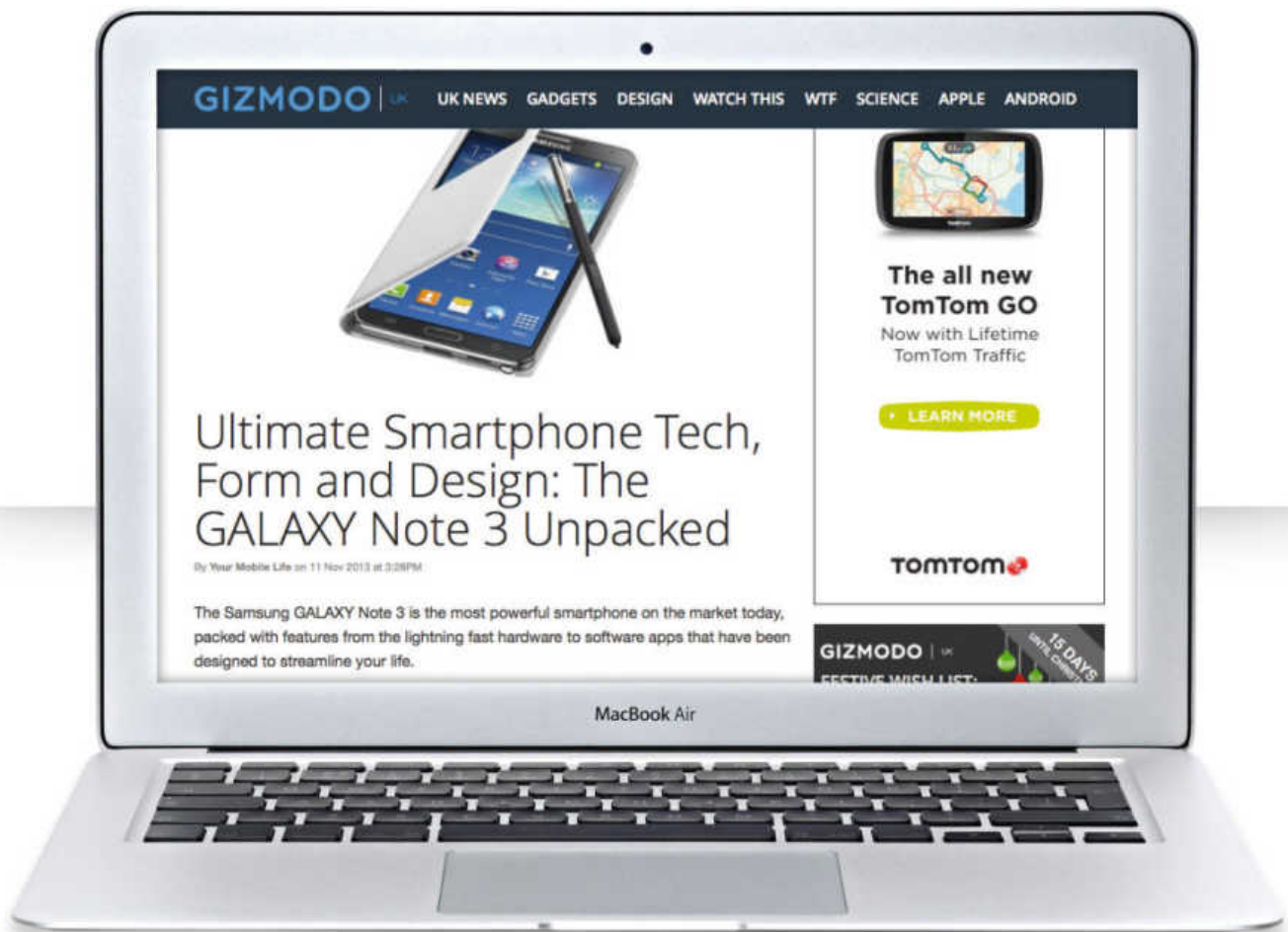


Find faces faster

➔ Photos lets you index your images according to who's in them. Get started by clicking Albums followed by Faces. You'll be shown a strip of faces it has already found in your pictures (and likely some false positives, such as pets and inanimate objects). Apple's instructions are to double-click one and type that person's name. Doing this for every picture is tedious, but you can save time after you've named someone just once by dragging any suggestions of the same person from the strip onto their circle in the top part of the window. They'll be named automatically.

GIZMODO | UK

Not your average technology website



EXPLORE NEW WORLDS OF TECHNOLOGY GADGETS, SCIENCE, DESIGN AND MORE

- Fascinating reports from the bleeding edge of tech
- Innovations, culture and geek culture explored
- Join the UK's leading online tech community

www.gizmodo.co.uk

twitter.com/GizmodoUK facebook.com/GizmodoUK



Set up an iCloud Keychain

Access website logins and bank cards on all your Apple devices

Remembering login details for a multitude of websites isn't easy. Passwords either end up being difficult to remember, or you make them so simple that they're easy for others to work out. But Safari and many other web browsers can save your credentials so you can set a stronger password and never have to memorise it.

You might want to log in to the same websites on an iPhone, iPad, iPod touch or another Mac. iCloud Keychain saves you the tedious task of having to enter the same login details on all of your devices. It can remember bank card details as well – but it won't store the security code from the signature strip. Apple says that your iCloud keychain is protected with high-

level 256-bit AES encryption too.

With Keychain set up, the first time you log in to a website from one of your devices, it'll ask whether to record your details. This isn't compulsory, and you might decline for sites that contain sensitive data. However, if you allow details to be stored, they're synced to iCloud Keychain. From there, they are sent to your other devices, saving you the hassle of having to type them. When you visit one of those sites in future, Safari automatically fills in the login form. All you have to do is tap a button to submit your details.

When you set up iCloud Keychain, you can create an iCloud Security Code, a four-digit code similar to an iOS device's passcode, or you can have a more complex code generated for you. The iCloud Security Code is used to authorise additional devices to use your iCloud Keychain.

Keychain saves you having to enter the same login details on all of your devices

Quick Look Keychain in action

Secure your keychain

1 Setting up iCloud Keychain involves more than just ticking a box in iCloud's preferences. You'll need to set a security code, and remember it to sync the keychain to additional devices.

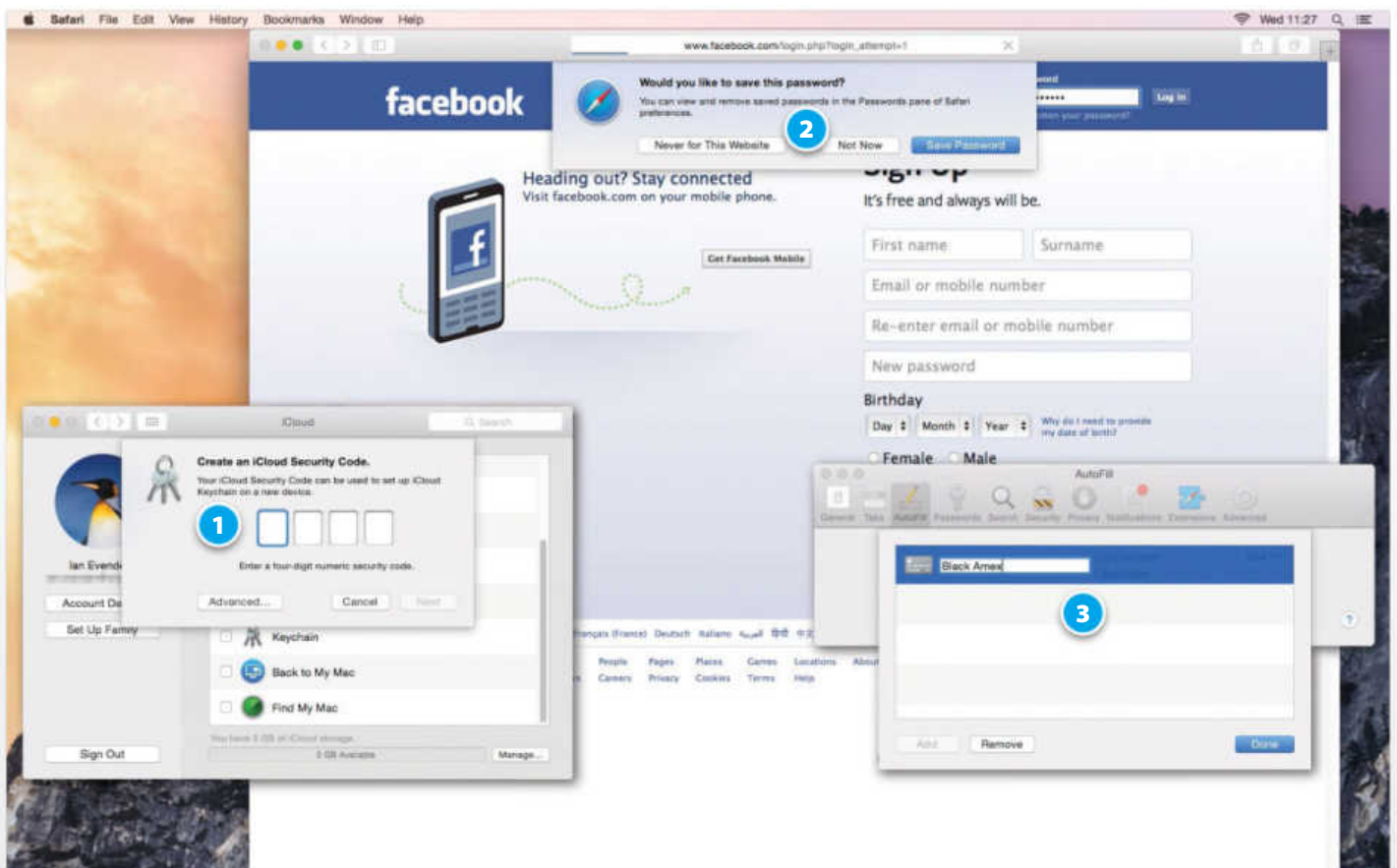
Safari asks for permission

2 iCloud Keychain depends on Safari's AutoFill feature. When both things are

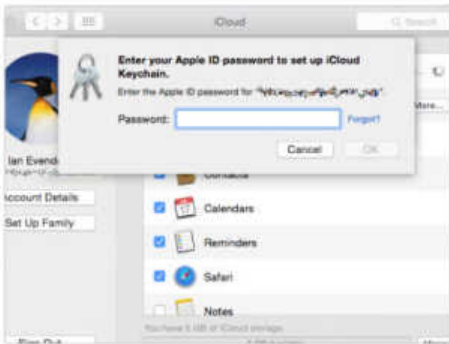
turned on, Safari recognises when you log in to a website and asks permission to save the details to your Keychain.

Bank card details

3 Safari can store bank card details, too. They can later be modified and removed in Safari's preferences, under AutoFill > Credit Cards > Edit. Changing the card number requires your Mac user account's password.



How to | automate your passwords with iCloud Keychain



1 Turn the key

Open **Apple > System Preferences** and click the **iCloud** icon. We'll assume you're already signed into your account. Scroll down the list of features and turn on the **Keychain** option, enter the password for your Apple ID when asked for it, then click the **OK** button.



2 Set a security code

Enter a four-digit security code, or see step 3 for stronger options. If you forget it, Keychain can't be set up without resetting the online copy – an existing copy can be retained on your Mac to start over, though. Enter a code, click **Next**, then confirm it.



3 Set a stronger code

Alternatively, click **Advanced** to set a more complex code that can contain letters and symbols, or to have a 24-character code generated for you – you'll probably want to write that one down and keep it somewhere safe because it's hard to memorise.



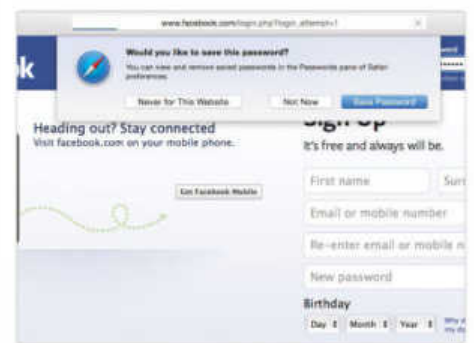
4 Risky situation

Choosing to have no security code doesn't make your account less secure, but it's troublesome if you have only one device and it's lost or becomes inoperable. You won't be able to set up Keychain on a replacement device and will have to start over.



5 Verification codes

Enter a mobile number that can receive SMS messages, then click **Done**. Keychain is now ticked in iCloud's preferences. Messages are sent only when you try to enable Keychain on another device, where you'll be required to enter a verification code from the SMS.



6 AutoFill in Safari

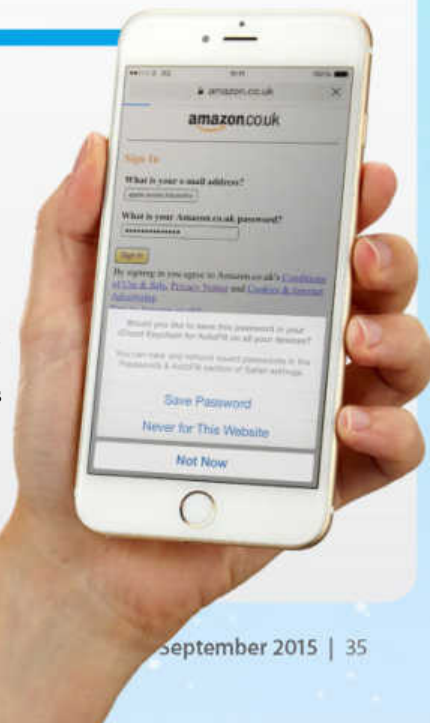
In Safari's preferences, click **AutoFill** and tick 'User names and passwords'. When you log in to a website, Safari asks whether to save your credentials to iCloud Keychain. This isn't compulsory – you might want to exclude online banking sites, for example.

iCloud Keychain on iOS devices

You should protect your iPhone, and hence your keychain, with a passcode. This code will be needed to access your iPhone, and to manage information in iCloud Keychain. Tap **Settings > Touch ID & Passcode > Turn Passcode On**. Enter a four-digit code, then repeat it to verify. Below that, **Require Passcode** sets a duration before your passcode is required after the iPhone locks (**Settings > General > Auto-Lock**) or you put it to sleep.

Keychain requires manual activation. Tap **Settings > iCloud > Keychain** and switch on **iCloud Keychain**. You'll be asked for your Apple ID. If you've already set up Keychain on another device linked to the same iCloud account, you'll need to approve your iPhone from there, or provide the security code you set during that process. If you opt to approve access to your keychain using another device, you'll receive a notification on it.

To save passwords ensure **Settings > Safari > Passwords & AutoFill > Names and Passwords** is on. In Safari, go to a web page that requires a user ID and password. Submit yours. You're given the option to save them, but you can opt not to. With iCloud Keychain enabled, the credentials are synced to your authorised devices and you won't have to type them. (When creating an account, 'Suggest password' appears above the keyboard.)



Master iCloud Drive

iDisk is back in the shape of iCloud Drive, Apple's answer to Dropbox

Apple's iDisk was part of MobileMe and provided 20GB of online storage, but it disappeared when the service was taken

offline. It took until 2013 for a replacement to debut in the form of iCloud Drive, with its structured online storage. It's accessible from within iOS and OS X apps, and as a free-form online file repository through OS X's Finder, where you'll find iCloud Drive in the sidebar.

iCloud Drive works with iOS 8 and OS X Yosemite or later, plus Windows 7 or later. You can also access it through a browser at icloud.com/iclcloudrive. Your iCloud Drive storage space is counted as part of your overall iCloud quota, so dropping large files here for the sake of backing them up will reduce the amount of space you have left for your photo library, email, iWork documents and so on.

iCloud Drive on OS X

At present, OS X is the most flexible system for working with iCloud Drive. By default, Drive is accessible from the sidebar. Click it and you can navigate the application-specific folders (App Libraries) created by some iOS and Mac apps.

Delete files by dropping them in the Trash, and upload them by dragging them onto Drive as you would with other storage. You can create new folders within Drive by pressing **⌘+N** – including subfolders within an App Library, but you're not restricted to, say, saving Pages documents in its library; files from a variety of apps can be grouped however makes sense to you. Opening a file launches the relevant application on your Mac, just as it would for a document that's only stored locally.

iCloud Drive on iOS

In iOS 8, apps need to be written with iCloud Drive support in mind to be able to save to and open files from it. Depending on the app, you might only be able to see its App Library, though many recent apps provide access to a document picker that enables you to browse Drive much like you would in the Finder. iOS recognises which file types an app can open and offers a limited ability to open, say, a document from a third-party writing tool such as Byword in Pages.

iOS 9 looks set to be much more flexible when it comes to accessing Drive. Developers, who have already got their hands on pre-release versions of it, have found an option to show a

iCloud pricing

You get 5GB of storage for free with an iCloud account, to share between all its services, including Mail, iCloud Drive and Photos. To upgrade this in iOS, go to Settings > iCloud > Storage, tap Buy More Storage (or Change Storage Plan if you already have). On your Mac, open System Preferences > iCloud, click 'Manage...', then Buy More Storage. Monthly prices are **79p** for 20GB, **£2.99** for 200GB, **£6.99** for 500GB and **£14.99** for 1TB.

dedicated iCloud Drive app on the Home screen. The app displays a similar view of iCloud Drive to the one shown in Finder on the Mac.

Free-form access to your files in this manner will make it easier to work on a single project across multiple applications. For example, you could start work in one image-editing app to gain access to its extensive editing tools, save the file to iCloud Drive, then use the iOS 9 iCloud Drive app to send it to another app that's packed with filter effects to apply a specific one before publishing the picture online.

iCloud Drive on the web

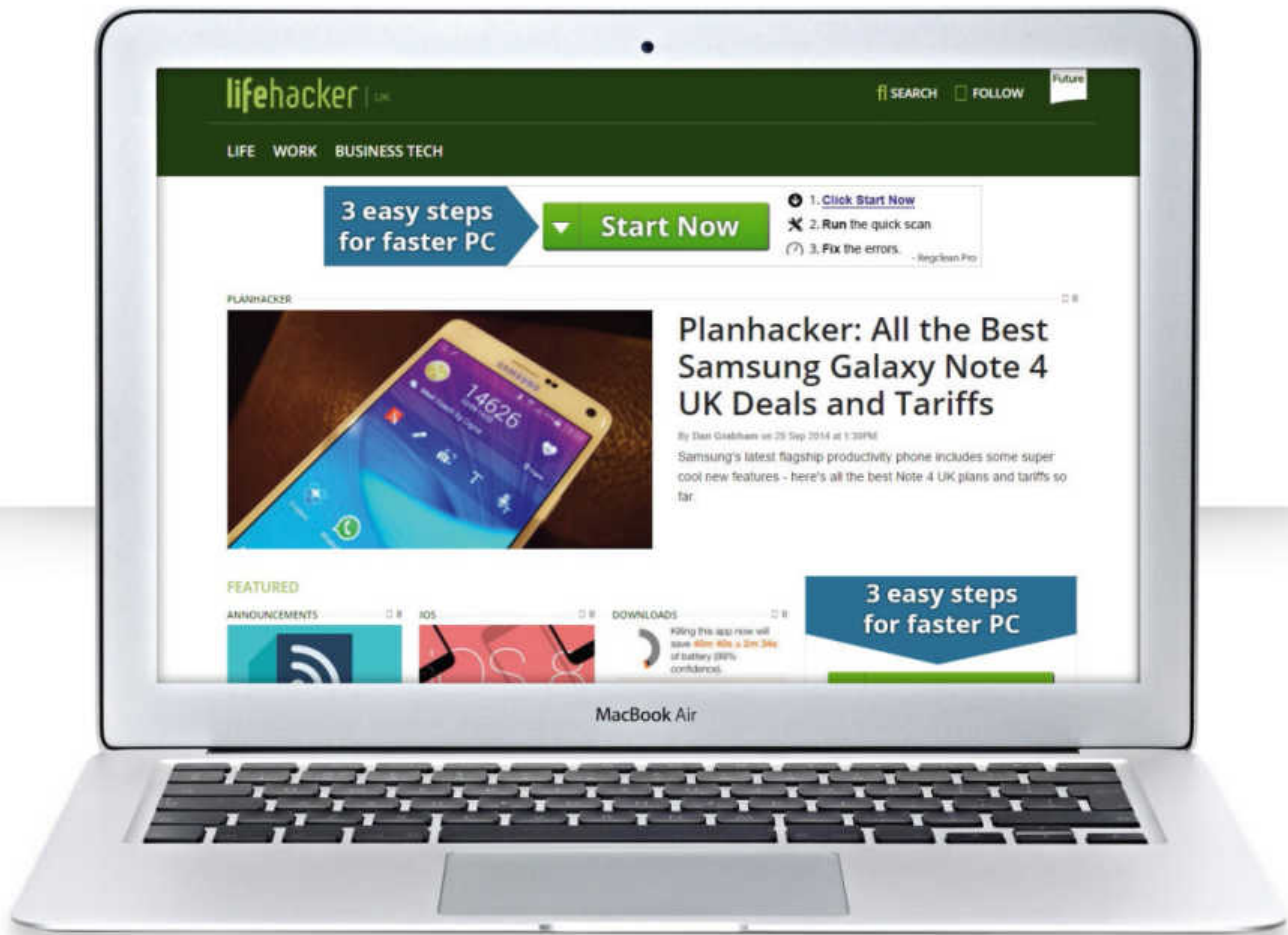
The web view of Drive is similar to that on iOS and OS X. You can create new folders and upload or download files on whatever computer you're using, and you can move items around in Drive by dragging and dropping them onto folders. To move them higher up in Drive, drag them onto a folder name in the hierarchy that's shown across the bottom of the window.

To change a file or folder name, click its icon and then the 'i' that appears at its top-right, and then type a new name. Delete things by selecting them (select several items by holding **⌘**, like in Finder) and clicking the trash can icon at the top of the page. You can also email files by clicking the envelope icon, but you can only send them from iCloud Mail, not a third-party service.



iCloud Drive-enabled apps automatically create a folder to hold their files, but you're not constrained to using them in OS X Yosemite and iOS 8.

Helping you live better & work smarter



LIFEHACKER UK IS THE EXPERT GUIDE FOR ANYONE LOOKING TO GET THINGS DONE

- Thousands of tips to improve your home & workplace
- Get more from your smartphone, tablet & computer
- Be more efficient and increase your productivity

www.lifehacker.co.uk

twitter.com/lifehackeruk facebook.com/lifehackeruk



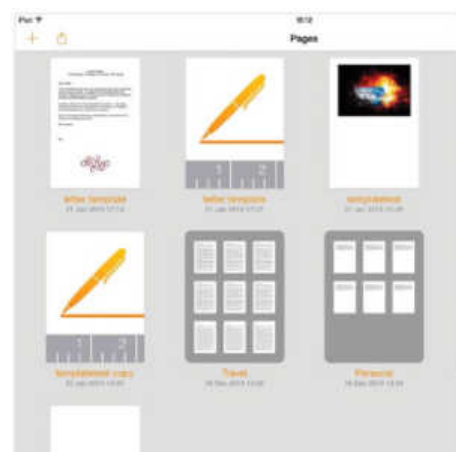
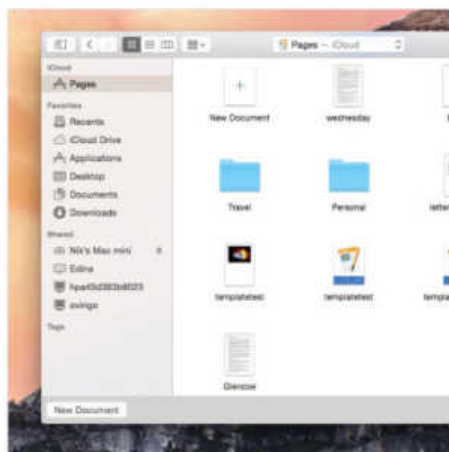
Use Drive across OS X & iOS

Storing your files on iCloud Drive means you can use them on any device

The beauty of storing your work online is that it's available on any piece of hardware through which you can access the internet – you only need to sign in to icloud.com using a compatible browser (<http://apple.co/1K7jWdz>) and have an app available that can open your files.

Start by making sure you've enabled iCloud Drive on all of your devices. On iOS, go to Settings > iCloud > iCloud Drive and ensure the switch is on. On a Mac, go to System Preferences > iCloud and check the box beside iCloud Drive. Click its Options... button to choose which apps can store documents and other data in Drive (you can still manually browse to and save files there).

To control individual applications' access to iCloud Drive on iOS, go to Settings > iCloud > iCloud Drive and use the switch adjacent to an app's name to decide whether it saves to iCloud. If you switch it off, your work will be stored locally, and will remain inaccessible from each of your other devices. You'll have to share by email or AirDrop to edit things on a Mac or another iOS device.

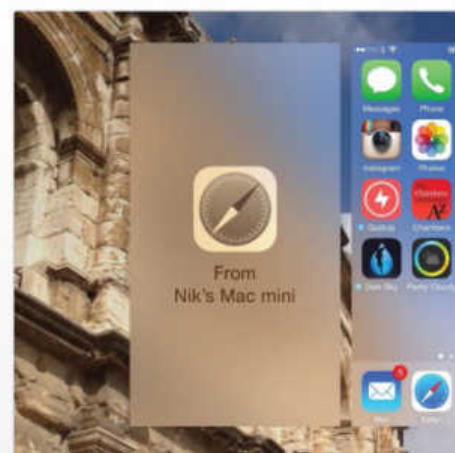
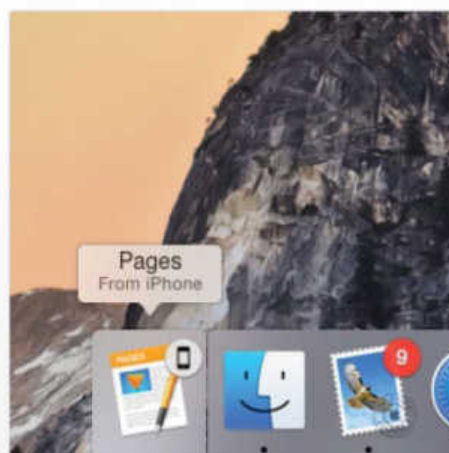
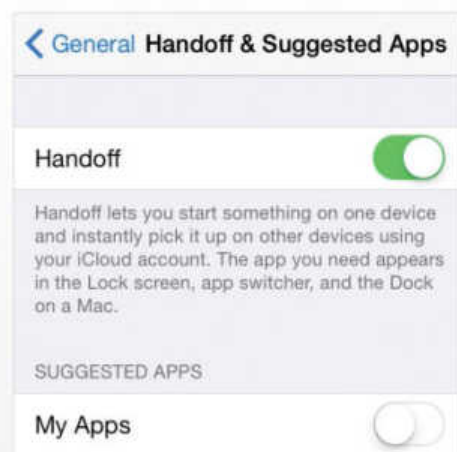


1 Logical filing

Many iOS apps default to showing the contents of their dedicated folder, or App Library, and some (yet fewer as time passes) can see no further on iCloud Drive. If you're on a Mac and want to continue working on an iPad, say, either save your file to iCloud Drive by clicking iCloud Drive in the sidebar and allowing the app to save to its own folder, or move your file from elsewhere to there.

2 Files and folders

Any iOS app that supports iCloud Drive is coded so that it knows exactly where to start looking for compatible documents. So long as it's set up to use online storage, your newly copied or saved file should immediately appear in its App Library or, if it uses iCloud Drive for synchronisation, as Ember does for screenshot libraries, update its contents to reflect changes made on your Mac.



3 Use Handoff

Handoff lets you start work on one device and finish it on another. It requires certain hardware (<http://apple.co/1I34axX>), Bluetooth to be on, and devices to be on the same Wi-Fi network. Devices must be signed into the same iCloud account. In iOS, enable it in Settings > General > Handoff & Suggested Apps. On a Mac, go to System Preferences > General and check the 'Allow Handoff...' box.

4 Share from iOS to Mac

With Handoff enabled, your devices will recognise when an app that's installed on them is in use on one of your nearby devices. When using a Mac, an app's icon will appear to the left of OS X's Dock. Put the pointer over it to confirm the device and app your Mac will receive data from. Click it to open the same app on your Mac, right down to the document or place that was open on the other device.

5 Share from Mac to iOS

Handoff works in both directions. Swipe up from the app icon that's shown in the bottom-left corner of the Lock screen or, if your iOS device is already unlocked, open the app switcher by double-clicking the Home button and swiping to the leftmost item. That item identifies both the device and the app from which data will be received and open on your iOS device when you tap it.

iCloud Drive tips & tricks

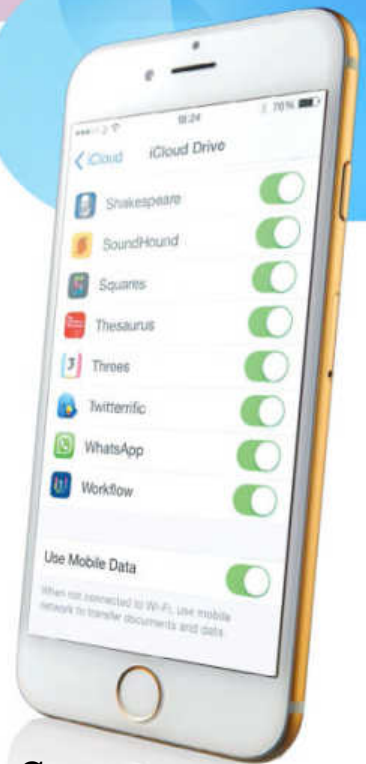
Get more out of iCloud Drive with these essential tips

Access iCloud Drive from anywhere

➡ In OS X, iCloud Drive resides within Finder's sidebar. If you don't see it, enable it in Finder's preferences in the Sidebar tab. When Finder is the active app, you can use a keyboard shortcut, **⌘ + ⌘ + I**, to jump straight to the top level of Drive. OS X apps that are built to access Drive store their data in dedicated folders by default, shown at the top of the sidebar when saving a file for the first time. If you want to save in a different folder, check that any iOS app you'll use to open that file can freely browse Drive, not just its own folder.

Control the flow of data

➡ If you're on a contract with a limited data allowance, you need to keep an eye on which of your apps use iCloud Drive. In Settings > iCloud > iCloud Drive you can stop individual apps using Drive altogether, but it's better to scroll to the bottom of the list and turn off Use Mobile Data to restrict all apps to only accessing iCloud Drive over Wi-Fi, which is usually unmetered, or at least more generously provisioned. This is particularly useful if you're roaming on a foreign network where higher data charges and lower caps will almost always apply. Remember, you can review how much mobile data apps have used by scrolling down in Settings > Mobile, and restrict them to Wi-Fi, though for all communication, not just Drive.



SOS – Save Our Space

➡ It's not only on an iOS device that you might want to restrict the range of applications that can access your iCloud Drive storage space – OS X offers the same options. You'll find them in the iCloud pane of System Preferences. Click Options beside iCloud Drive, and in the Documents tab you can uncheck apps to block their access. Note that this doesn't stop you manually browsing to and saving documents to iCloud Drive, but it stops apps saving other data to it behind the scenes.

This might seem like a strange thing to do on the Mac where you won't normally be connecting over a mobile network, but two primary considerations still apply here. First, in some rural areas the only practical option for getting online at a decent speed is satellite broadband which, as with roaming abroad, often comes with a lower data limit. Second, your iCloud Drive space is limited, so you might want to stop non-essential apps using it.

There is a third consideration, however, which is to use an iPhone as a personal hotspot. In this instance you almost certainly want to keep a handle on how much data you're using.

Move files around while they're open

➡ Now that Apple has given us all access to the folders that make up our iCloud Drive storage – on OS X, at least – you can move work around freely in Finder. However, there's another way to do it while the file you want to move is open – perhaps because you have saved it in the wrong place. Open the File menu of an iCloud-compliant app and choose the Move to... option, then navigate to the folder where you want to store the document. (You can also do this by clicking the file's name in its title bar, where you can attach tags without going to Finder.) You can't manage files this way in iOS, but you'll often be able to send a file from the app that created it to another that can read it by tapping the Share icon and looking for 'Open in Another App'.

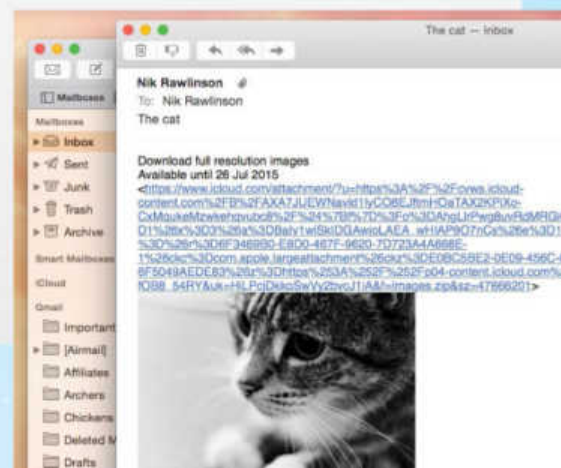
Use iCloud to send large files

➡ Mail in OS X will only send attachments of less than 40MB, so if you spend a lot of time uploading large files onto sharing services like Dropbox and pasting links into your emails instead of the files themselves, then you'll want to use the Mail Drop feature (only found in Yosemite's version of Mail) to send attachments.

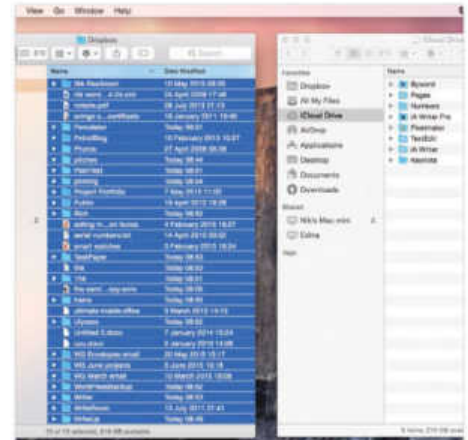
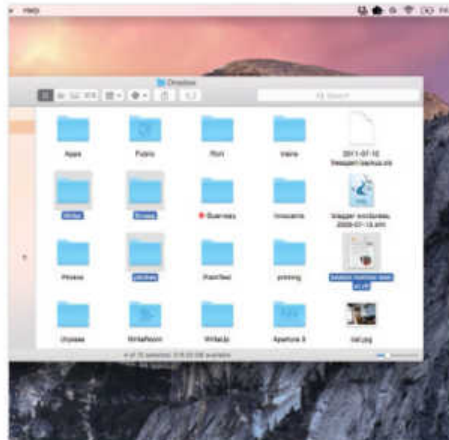
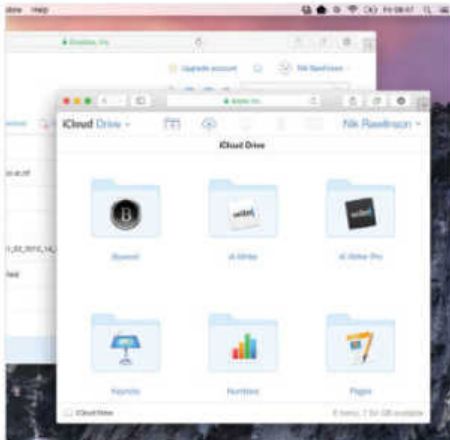
The first time you attach a large file to a message you'll get a warning that you've exceeded the maximum size. If the file is an image you can slim it down using the Image Size control in the composition window, but this degrades the image's quality.

So, rather than shrinking an image, ignore the warning and click Send. Mail will display options that include a Mail Drop button. Click that and so long as the attachment is 5GB or less it will be removed from the message and uploaded to iCloud – though

you won't actually see it in Drive because it's not stored there and doesn't count against its storage limit. It will be available to download for 30 days. Although Mail Drop doesn't affect your storage quota, it is subject to a total ITB limit in any 30-day period. Apple mentions some other limits at <http://apple.co/ITD9fkW>.



How to | migrate from Dropbox to iCloud



1 Why move?

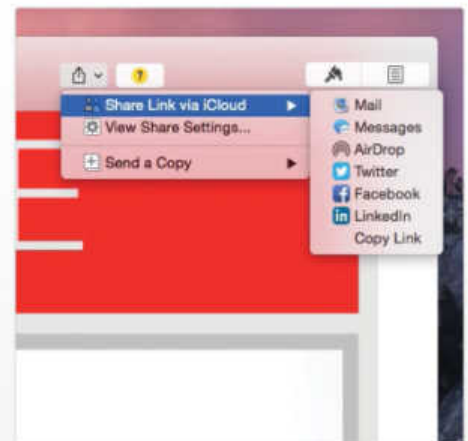
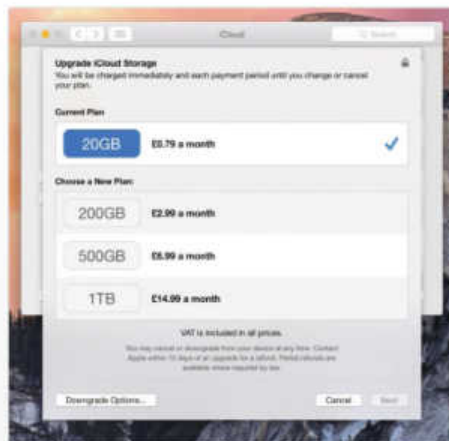
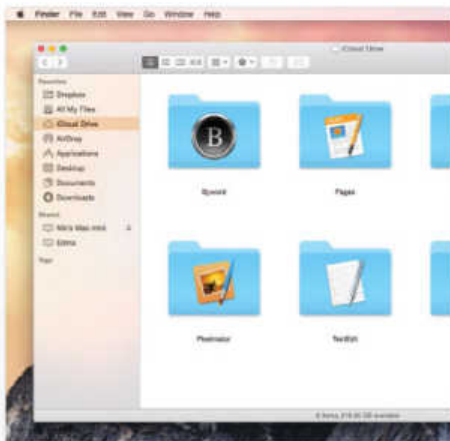
iCloud accounts come bundled with 5GB of storage – more than twice as much as you get with Dropbox. Better yet, its intimate connection not only to OS X but also to iOS means that in many cases it's easier to access your files stored there on an iPhone or iPad than it is with Dropbox, for which you need to use the dedicated Dropbox app or a third-party tool like Readdle's Documents. For both of these reasons, it's a good idea to consider migrating from Dropbox to iCloud.

2 Tidy things up

Start with a little spring cleaning. Dropbox's free-form filing system is so flexible that it's easy to clutter it up with old documents that you don't need – particularly if you've been using it as a dumping ground to share large files with other people! Spend some time going through your files and copying off any you don't need to access remotely anymore. The more you remove, the less time the transfer will take and the less of your limited iCloud storage you'll use up.

3 Drag and drop

Open two Finder windows and position them side by side. Navigate to your Dropbox folder in one and your iCloud Drive in the other, then select the files you want to move across and drag them from Dropbox to iCloud. Bear in mind that you're not dragging directly from one cloud service to the other, but between two synchronised local folders, so although the initial transfer may seem to complete quite quickly it won't be reflected on iCloud Drive on all your devices right away.



4 Finalise your filing

As we said earlier, some (not all) iCloud-aware apps on iOS can see no further than their own dedicated folder. So, you'll need to check how far you can browse iCloud Drive from within your iOS apps and, if they are limited in this way, you'll need to re-sort them into the respective folders within iCloud Drive for them to be visible in those apps. OS X apps don't have this problem as you can navigate Drive's folder structure in the Finder to open files directly in any compatible app.

5 Upgrade your account

One of the benefits of migrating your online storage from Dropbox to iCloud Drive is that you can take advantage of more granular upgrade options. Dropbox is the cheaper option if you need to go to the maximum 1TB (it costs £7.99 a month, compared to iCloud Drive's £14.99). However, that is Dropbox's only upgrade option, and for many users it's too much. In that case, Apple's 20GB, 200GB or 500GB options may be more appropriate – and they start at 79p a month.

6 Share without Dropbox

Part of Dropbox's appeal is the ease with which it lets you share files. It integrates with the Finder, so you can right-click a file to share a link to the online copy. iCloud Drive doesn't do this, and lacks the public file stores of its predecessor, iDisk, so most of the time files need to be shared by email, using Mail Drop if necessary. In some apps, such as Apple's iWork suite, the Share menu lets you send a link to a file for collaborative or review purposes, and with password protection.

Technology
Tips Guide

REVISED
2ND EDITION



FREE
Digital version
with this
book

OS X YOSEMITE

563 TIPS, TRICKS & TECHNIQUES – GET
THE MOST FROM OS X YOSEMITE TODAY!



148
pages of
practical
advice



Available at all good newsagents or visit
www.myfavouritemagazines.co.uk/computer

Subscribe to Mac FORMAT

Want the
print mag
overseas?
Go to p82

Choose the perfect
package for you!

GET THE DIGITAL EDITION



Instant digital access on your iPad and iPhone. With interactive tutorials on iPad, extra content, fully searchable articles and more

ONLY £12
EVERY 6 MONTHS

GET THE PRINT EDITION



Every issue delivered to your door at a fraction of the cover price

ONLY £25
EVERY 6 MONTHS

SUBSCRIBE

GET THE PRINT & DIGITAL BUNDLE

Get both the
print & digital
editions for...

£30

EVERY 6 MONTHS

Get the print edition
of MacFormat
delivered direct
to your door and
instant access on
your iPad, iPhone
or Android device

Interactive tutorials,
extra content, fully
searchable articles,
and more in the
digital edition

Huge savings, the best
value for money, and a
money-back guarantee

SAVE!
54%

www.myfavouritemagazines.co.uk/MACsubs

Terms and conditions Prices and savings quoted are compared to buying full-priced UK print and digital issues. You will receive 13 issues in a year. If you are dissatisfied in any way you can write to us or call us to cancel your subscription at any time and we will refund you for all unmailed issues. Not all extra digital edition bonus features will be available on all devices. Prices correct at point of print and subject to change. For full terms and conditions please visit myfavm.ag/magterms. Offer ends 2 September 2015.

SEE WHAT
YOU COULD
SAVE!

ADVERTISING FEATURE



You could save £££s when shopping online with Beat My Price

Don't be beaten on price with the new money saving service from bespoke offers

Everyone likes to save money but most of us don't have the time to trawl the internet looking for the best deal. So Barclaycard's bespokeoffers.co.uk launched Beat My Price, a new type of shopping experience which takes the hassle out of bargain hunting – it's like having your very own personal shopper!

Beat My Price has teamed up with a number of top partners and suppliers to try and source the very best prices for everyone's favourite products. Whether looking to buy the latest iPad, TV, headphones or wireless gadget, Beat

My Price aims to save you time and money and take the stress out of shopping around. In just three easy steps, Beat My Price saves you precious time and money.

1: Find it – identify the product you want to buy by browsing as normal at major online retailers. **2: Paste it** – copy and paste the product's web page link into the Beat My Price page and challenge it to 'Beat My Price'. You can register for free at www.beatmyprice.co.uk and they will aim to get you a better price than the one you've currently found by up to 12%*¹ (delivery included). **3: Beat it** – if successful, an

email will land in your inbox within 48 hours of submitting the web link (though it can land within just a few hours). You'll then have a limited time (usually 12 hours) to take up the exclusive price*².

For even faster deal-hunting, you can add the Beat My Price bookmark to your search engine to shortcut the process of getting a better price. Make up to five requests a day too, giving you plenty of opportunity to save £££s. Beat My Price saved Richard from Wales 15% off a GoPro HERO4, the great new action camera from GoPro. Give it a try today...



Challenge us to find you a better price at... www.beatmyprice.co.uk



¹ 3 out of 4 times we find a better price than the one found by the consumer. Personalised discount emailed to you within 48 hours.

² Limited time period to use discount, usually 12 hours. Shoppers are currently able to make up to five requests a day on Beat My Price. Beat My Price is owned and operated by Barclaycard, whose conditions apply.



IMPROVE



“Concerned about who will see things you share online? Calm your fears with our guide to online privacy”

Be sure who you're sharing things with **p46**



THIS ISSUE'S EASY-TO-FOLLOW GUIDES



Make magical presentations

Discover the easy way to animate using Keynote's Magic Move tool **p46**



Get El Capitan features today

You don't have to wait until autumn, thanks to this selection of great OS X utilities **p48**



Advanced shape tools

Use Affinity Designer's Boolean and brush tools to add extra detail to your illustrations **p52**



Share personal stuff privately

The best ways to share personal news, photos and videos with sensitivity **p54**



Boost MacBook battery life

Enjoy your MacBook for as long as possible with these easy energy-saving remedies **p59**



Create super-smart folders

Unleash the power of a little-known automation feature that's built into OS X **p60**



Back up using Google Photos

Get unlimited free cloud photo storage even for Apple's apps **p62**

Make magical presentations

Discover the easy way to animate using Keynote's Magic Move tool

SKILL LEVEL

Anyone can do it

IT WILL TAKE

20 minutes

YOU'LL NEED

OS X 10.10 or higher,
Keynote 6.0 or higher

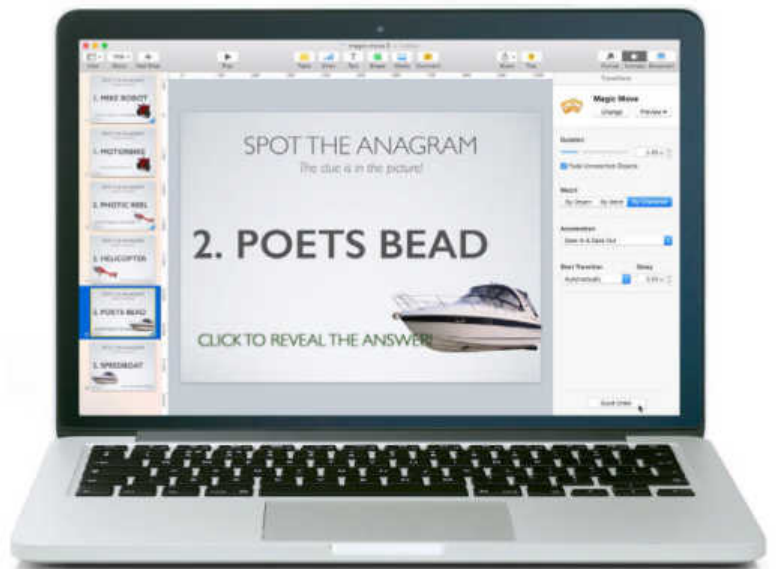


The longer a slide presentation is, the harder it is to keep your audience

focussed, particularly if it consists of static slides. Keynote's animation effects inject much-needed pizzazz into your slideshows, including a number of transitions that bring images, charts and text boxes into and out of your slides.

The problem with these tools is that you can't use them to move an object around a single slide – instead, they simply move the object onto the slide or take it away. Thankfully, there is a workaround that involves duplicate slides and the Magic Move tool. You have a number of options, depending on the object type: move, resize or rotate images, for example, or jazz up some text by changing its style, position, size or even the words themselves.

Think of the first slide as the 'before' image, and the second slide as the 'after'. All you need to do is position, size or format your object in its finished state on the second slide, and the Magic



The Magic Move tool can be used to animate both text and images in your Keynote presentations.

Magic Move can manipulate images, or jazz up text by changing its style or the words themselves

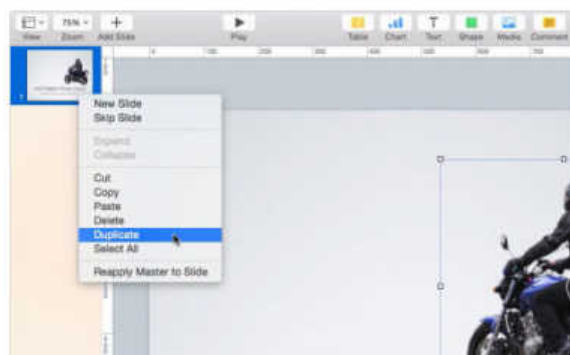
Move tool will smoothly animate it from one spot to the other. You can animate multiple objects over two slides and they'll be moved simultaneously. If this looks too messy, you can string together several Magic Move transitions to animate things in sequence, or to create more complex animated sequences.

Nick Peers

HOW TO | MASTER THE MAGIC MOVE TOOL

BUILD EFFECTS

You can apply build effects to objects using the Animate inspector, but placement is key. Apply build-in effects on slide one, and action and build-out effects on slide two. Click Build Order to run automatically.



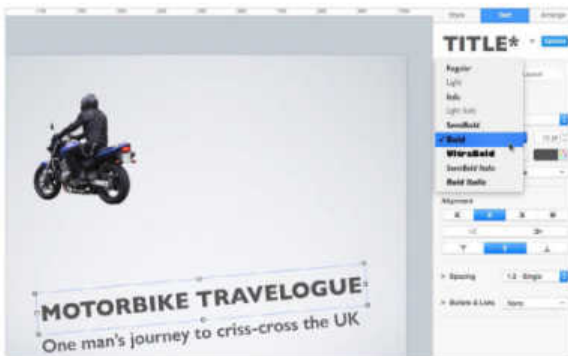
1 Prepare the initial slide

Set up your first slide. Any object you place on it can be animated using the Magic Move tool, but remember the 'less is more' mantra of good design; don't clutter the slide with too many competing elements. Next, select the slide in the navigator on the left and press **⌘ + D** to duplicate it.



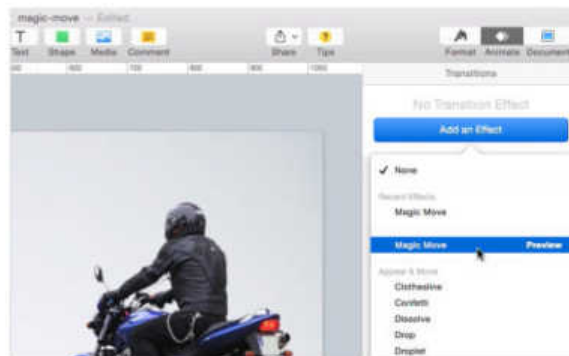
2 Animate image

The new slide should be selected by default. If you're animating an image or a shape, select it and then drag it to its desired 'end' position. You can also resize it using its drag handles, and rotate it by holding **⌘** when dragging them – Keynote will smoothly animate any changes you make.



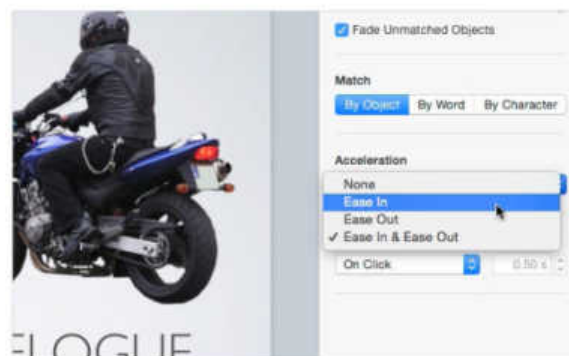
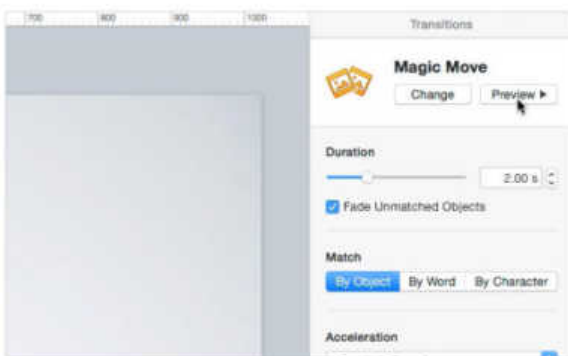
3 Create text effects

You can also apply Magic Move to text, to move, resize and rotate it just like you would an image. You can also make changes to the text itself: apply stylistic changes such as bold or italic, or animate the text itself by word or character using the Match setting (see the 'Word Play' tip about anagrams).



4 Apply Magic Move effect

Once your object is in its end position, select the first slide again in the navigator. Open the Animate inspector, click Add an Effect and choose Magic Move. If it doesn't automatically show a preview of the effect, which can take some time to generate, click the Preview button to see it.

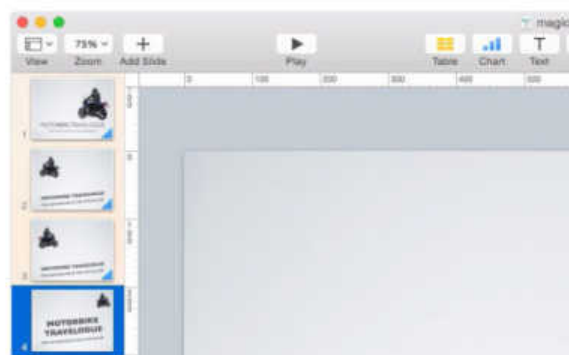
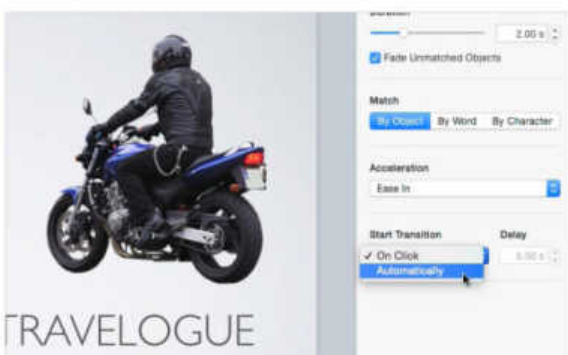


5 Change effect attributes

The effect can be customised. All animations last two seconds by default – alter this using the Duration slider. Leave Fade Unmatched Objects ticked to smoothly remove (or introduce) objects that aren't on both slides. The Match options of By Word and By Character apply to text only.

6 Tweak acceleration settings

By default, Acceleration is set to Ease In & Ease Out, which means the animation smoothly speeds up at the start and slows down at the finish. Changing it to Ease In will give you an abrupt finish, while Ease Out makes it start abruptly. Choosing None gives a constant speed for the duration.



7 Set transition start

The Start Transition item determines whether the Magic Move transition starts as soon as you advance from the previous slide (with an optional delay) or, as is the default setting, when you click. When done, move on to the next Magic Move effect in your sequence by adding more slides.

8 Smart animations

Each Magic Move transition allows an object to move from one point to another. To move it more than once, create more slides with Magic Move effects for each step of the journey. For example, you'll need two Magic Move transitions to move an object from left to right and back again.

WORD PLAY



Type an anagram on one slide, then duplicate the slide and edit the text on the duplicate to show the unscrambled word. Add a Magic Move effect to the first slide and set Match to By Character. Watch as the letters are magically rearranged!

JARGON BUSTER

A **transition** is an animated effect specifically designed to do one of three things: provide a smooth switch from one slide to the next, introduce an object onto a slide, or remove an object from it before that slide disappears.

Get El Capitan features today

You don't have to wait until autumn, thanks to this selection of great utilities



Perhaps the highlight of El Capitan is Split View, which is essentially a new feature of OS X's full-screen mode. Rather than forcing you to focus on one app, you'll be able to fill the screen with two. Creating a split view is just a case of holding down a key and dragging on a window's green zoom button, choosing to send it to the left or right side of the screen, and then selecting from a Mission Control-like view what you want in the other half. The split can be adjusted to suit.

This isn't a new concept. It borrows heavily from Microsoft's Windows Snap, which debuted in 2009; and plenty of utilities already add similar

functionality to the Mac. Moom (\$10 – about £6, manytricks.com) is probably the most customisable window manager out there. You can snap windows to screen edges and corners by dragging them, use keyboard shortcuts to move and zoom them, or even enable a 'move and

SKILL LEVEL

Anyone can do it

IT WILL TAKE

Am few minutes

YOU'LL NEED

OS X 10.10, Moom and BetterTouchTool

zoom grid' that appears when you hover the cursor over a window's green zoom button. The grid defaults to a 6-by-4 setup but you can have up to 16 cells horizontally and vertically; when the grid's visible, you simply 'draw' where you



Moom and BetterTouchTool provide extensive options for split-screen views.

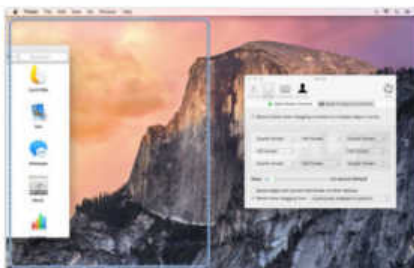
want the window to be positioned. The app's powerful custom controls provide further means to move your windows around the screen without your fingers ever leaving the keyboard.

An excellent and free alternative to Moom is BetterTouchTool (bettertouchtool.net), which you can use to create gestures and shortcuts for your mouse, trackpad and keyboard. The app includes a 'Window Resize & Move' category and supports up to five-finger swipe gestures. Within minutes,

you can be flinging windows around and pretend you're starring in a version of *Minority Report* with significantly more aluminium than in the movie (and fewer psychics in fish tanks).

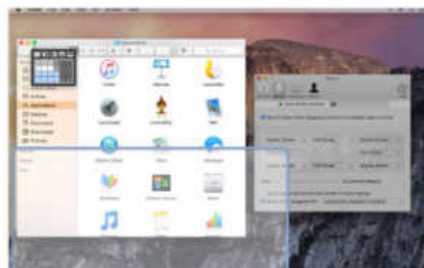
Neither solution gets you El Capitan's full-screen shenanigans, but both match the means to quickly snap windows to a screen half, and also offer far more diverse ways to split your screen. Even when OS X 10.11 arrives, they'll still be worth having installed. **Craig Grannell**

WINDOW MANAGEMENT | MOOM AND BETTERTOOL



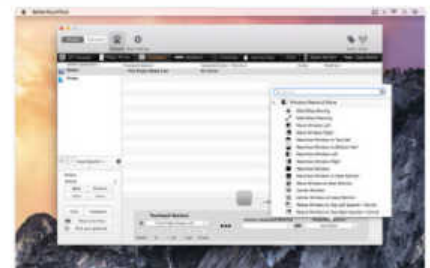
1 Snap to edges

In Moom's preferences, select Mouse. Click 'Snap to Edges and Corners' and fill the checkbox. Open a Finder window and drag it to the left screen edge to fill that half of the screen. Try it with other edges and corners.



2 Use the grid

In Moom's preferences, select Mouse > Zoom Button Controls. Click 'Enable Move & Zoom grid'. Hover over a Finder window's green button to see a grid. Drag a 4-by-2 rectangle on it and your window will resize.



3 Create an action

In BetterTouchTool, select Trackpads. Click Add New Gesture at the bottom of the window, and set it to Five Finger Swipe Left. Under Predefined Action, pick Maximise Window Left. Now try it on a Finder window.

Spotlight

Think different when it comes to searching your Mac and the web



In OS X Yosemite, Spotlight moved to the centre of the screen and gained

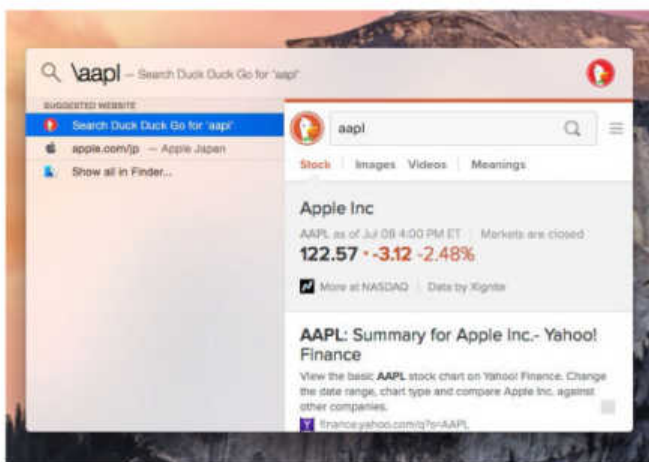
some new tricks, such as currency and unit conversion, some integration with Maps, and the means to find items in the iTunes Store. El Capitan means to take this a stage further, with search results from a wider range of web sources: weather, stocks, sports results and video results are all available included. It also aims to make it easier to find what you want by expressing it using natural language.

This all sounds great, but we really wish Spotlight went further, and apparently the author of the free and open-source Flashlight (flashlight.nateparrott.com) did too. This Yosemite-only app uses plug-in architecture to inject a huge range of capabilities directly into Spotlight, including weather forecasts, the means to craft messages and emails, and system commands. YouTube video can be viewed directly in Spotlight, and by using DuckDuckGo (type \ and then your search terms), you can get fast access to stocks information, current events and sports results.

The snag: at the time of writing, Flashlight wasn't functional on OS X 10.10.4, due to that system blocking EasySIMBL on which it relies. It worked fine on 10.10.3, however, and its developers were busily working on a fix.

There are plenty of other Spotlight alternatives, including Quicksilver (free, qsapp.com), LaunchBar (free/€24 – about £17, obdev.at), and Alfred (free/£17, alfredapp.com), all of which offer far more granular control and extensibility than Spotlight. Relatively few search results are returned directly within the interfaces of these apps, although Alfred can handle weather; learn more about Weather Workflow at <http://bit.ly/1SxRRLz>. However, they do make it very quick and simple to trigger web searches on specific websites.

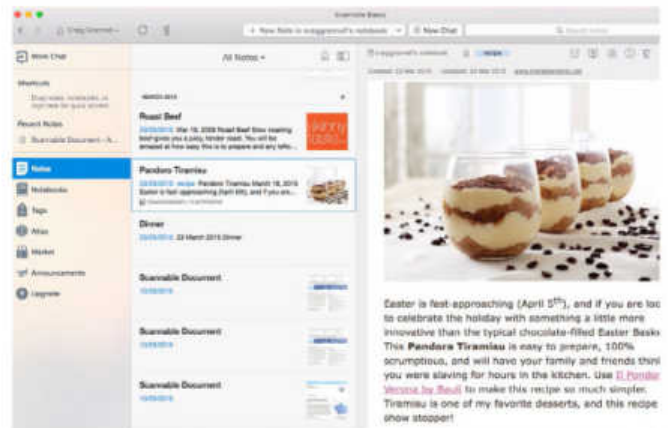
Moreover, these three apps share one major advantage over Spotlight: the means to directly manipulate files and information, rather than simply find things. So while Spotlight's long-term intention appears to be keeping you away from the web, Alfred, Quicksilver and LaunchBar may find you largely avoiding Finder.



We're big fans of Flashlight for Spotlight, and really hope it lives on beyond OS X 10.10.3.

Notes

Apple's Notes is being revamped, but online rivals already exist



Evernote may well feel like a 'pro' version of Apple's Notes once El Capitan is here.



Out of all the announcements made at WWDC 2015, Notes was the one that got us properly excited.

The existing app is extremely basic, merely providing the means to jot down bits of text and the odd link, all of which automatically syncs between your devices via iCloud. However, come El Capitan, everything changes: you'll be able to embed images and videos; URLs will be converted into clickable buttons that show thumbnails from the websites in question; you'll be able to integrate maps; and it'll be possible to create checklists in seconds, for interactive to-dos. In addition to all of this, an attachments browser will give you a great at-a-glance view of the various photos, videos, maps and URLs you've added, without you having to comb through all of your notes.

But as much as we liked what Apple had to say, we couldn't shake the feeling that the new Notes sounded an awful lot like a kind of Evernote Lite. If you haven't used Evernote (from free, evernote.com) before, it's essentially a dumping ground for

anything you want to stash for later, including photos, web articles, handwritten notes, and bits of audio. Like the upcoming Notes revamp, you can create task lists to keep yourself organised. Evernote further boosts productivity by providing the means to set reminders for any note, and to assign tags to make them easier to retrieve later.

A big advantage of Evernote over Apple's Notes is wider platform support. Along with being available for OS X and iOS, Evernote has clients for Android, Windows and BlackBerry, along with making everything fully accessible online. The snag is the free version is a bit restrictive. You get only 60MB of uploads per month, and cannot access notes when offline. Pay £19.99 per year and you get 1GB of uploads per month, offline notebooks, and the ability to save emails into Evernote. For £34.99, uploads become unlimited and you can turn notes into presentations, use PDF annotation tools, and digitise business cards. By the time you reach that point, you're heading into the realm of business, but Evernote's probably a better bet there than Notes will ever be.

Safari

If you know your browsers, you'll know Safari's playing catch-up



Web designers, quite logically, know their browsers. They know which ones

are good and which need a bit of a kick up the bottom. For years, Microsoft's Internet Explorer was the target of most people's venom, but now plenty of users are starting to call Safari the new IE, mostly because it has a tendency to lag behind the rest of the industry.

You can't help but feel this way on seeing two of the new Safari features coming in El Capitan: one is 'pinned sites', which allows you to permanently position oft-visited sites towards the left of the tab bar, accessing them by way of clicking icons on tiny tabs; the other is tab muting, which turns off the audio on a specific tab that's blaring out an annoying ad or video you didn't realise was playing.

To be fair, these are really handy features, but they're already found in rival browsers. Firefox (firefox.com), Opera (opera.com) and Google Chrome (google.co.uk/chrome) all enable you to pin a tab by **cmd**-clicking it and selecting Pin Tab. Chrome's

implementation is closest to what you'll see in Safari, and Google's browser also has the advantage of optionally sharing bookmarks over the cloud to a very strong iOS browser.

From an audio standpoint, most browsers rely on a plug-in to silence tabs, but Chrome has an experimental built-in feature that seems to work. Enter `chrome://flags/#enable-tab-audio-muting` in its address bar and click the Enable link. The next time you relaunch Chrome, little speaker icons will appear in tabs that are playing audio. Click them to silence the content within.

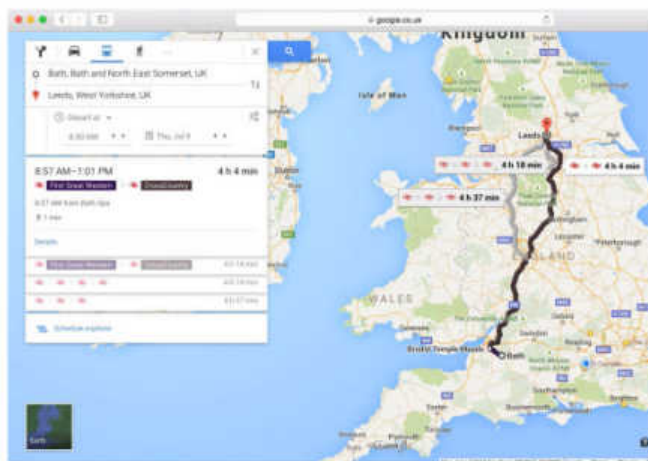
If you are resolute in wanting to stick with Safari until it gets upgraded in El Capitan, then you'll have to make do without pinned tabs, although you can at least pin sites to Top Sites, and use the General preferences to set new windows or tabs to open specific pages. For audio muting, consider ClickToPlugin or ClickToFlash (both free, <http://bit.ly/1fhQvru>), extensions that nullify the majority of noisy content (typically videos, games and adverts) until you specifically ask it to play.



If you're not bothered about sticking with Safari, rival browsers tend to get features first.

Maps

Want to get about on public transport? Time to call for a Google



Google Maps already does more than what Apple's Maps update is likely to, so use it instead.



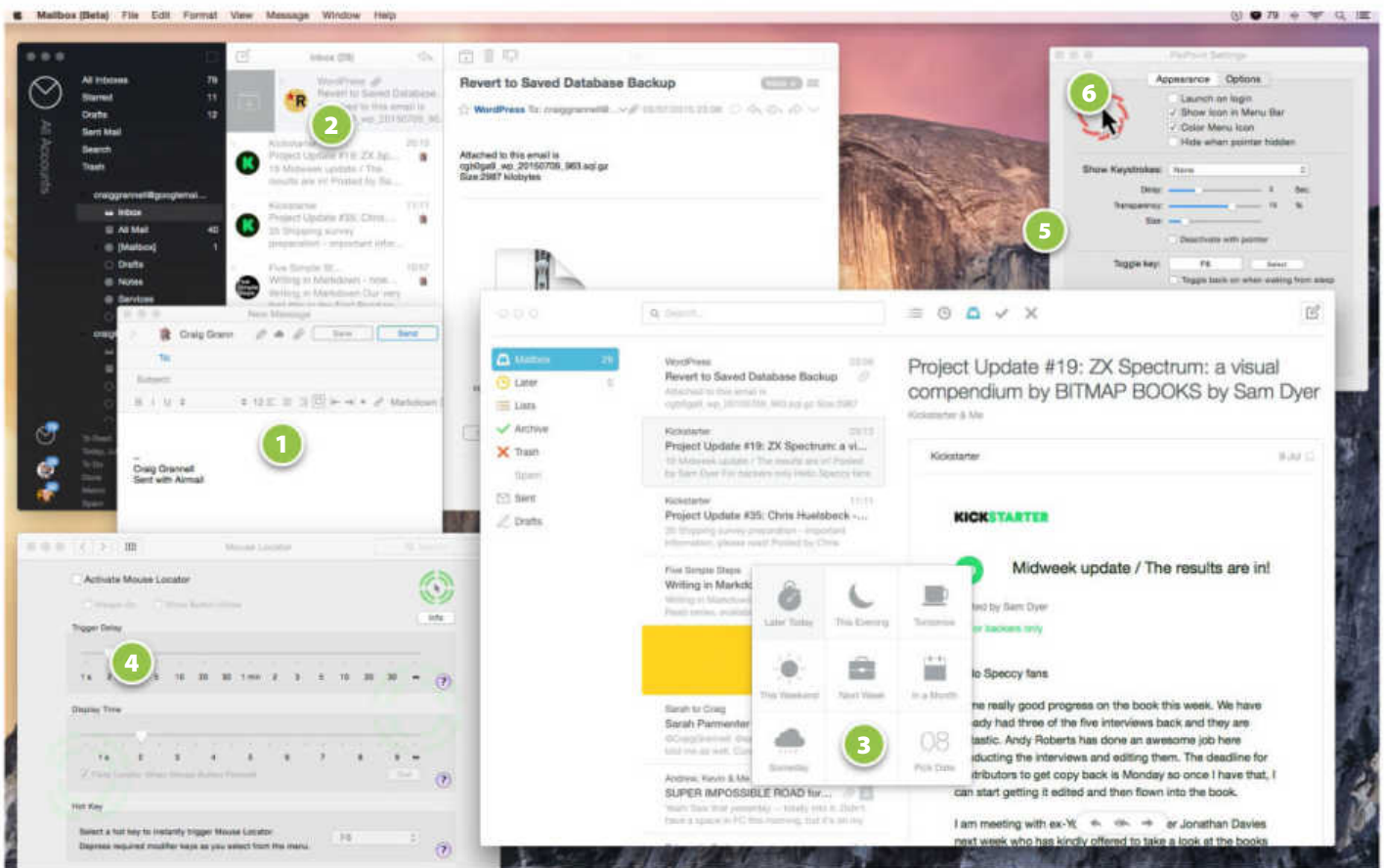
On the El Capitan preview page on Apple's website, the company says of Maps: "Now arriving. Public transit info".

"At last," we wanted to yell. "We've been waiting for this for ages, like some kind of tardy bus". So, soon you'll be able to view routes for trains, buses and ferries, and how to walk between stations. You'll be able to get directions on your Mac and transfer them to your iPhone. There is, however, the drawback that on launch only a tiny number of cities is going to be covered. If only there was another major player in technology that had long had a maps solution that was the envy of everyone else, which worked nicely on your Mac, included public transport information, and could send routing information to your iPhone!

If you've just yelled "Google Maps" at the top of your lungs, a gold star for you (and apologies to anyone sitting nearby). Yep, Google's solution does everything Apple's will, with the advantage it's far more mature regarding public transport information, and

therefore covers way more locations. Right now, you can visit maps.google.co.uk, set a starting point and destination, and define whether you want to walk, drive, or use public transport. With the various tools on offer, you can additionally choose preferred modes of transport, the route type (for example, to minimise walking or transfers), and state when you want to leave or arrive.

Assuming you have a Google account and are signed in, all this information will be find its way over to your iPhone. In the Google Maps app, open the sidebar (via the list-like icon at the left of the search bar), tap Settings, and then choose 'Maps history'. Select the specific route option you want to go for, and you'll be on your way. Note that Google Maps for iPhone enables maps to be saved to use when you can't get online. Hold a finger on the screen to drop a pin, then tap the search bar, scroll down and pick 'Save offline map'. Pan and zoom the map to suit, then tap Save. After naming the map, it'll be available from 'Your places' in the sidebar – just scroll down to the 'Offline maps' section.

VISUAL GUIDE | GESTURAL EMAIL AND FIND YOUR MOUSE**Full-screen email**

1 In El Capitan, Mail lets you “juggle all your email conversations”, which means you can hide the email composer in full-screen mode, and switch between in-progress messages by using tabs. Airmail (£7.99, airmailapp.com) keeps things simpler – replies and new messages in full-screen mode are standard windows, which can be positioned wherever you like (and moved very rapidly when using a window manager).

Gestural controls

2 The next version of Mail takes a cue from iOS, supporting touch gestures for managing email. Swipe right to mark emails as read or unread, left to delete them. Airmail matches Mail’s leftwards swipe to delete an item; swiping the other way, though, is for archiving. Note that if you swipe too far, the action appears irreversible unless you quit the app before releasing the trackpad.

Email reminders

3 Mailbox (free, mailboxapp.com) is also big on gestural control, but has more tricks up its sleeve than Apple’s updated Mail app. Swipe right to mark an email as read, but swipe further and a green tick becomes a red cross for deletion. Swipe left to define a reminder to deal with the email, ranging from a specific date, to the procrastination-oriented ‘Later Today’. Our favourite option: ‘Someday’.

Mouse Locator

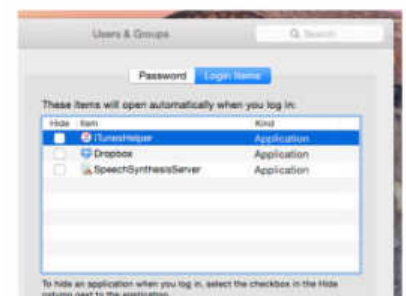
4 In El Capitan, you’ll be able to wiggle the cursor to find where it’s hiding. We couldn’t find an existing app to mimic that, but some utilities do make locating the cursor a simpler task. Mouse Locator (2point5fish.com) isn’t elegant, but it’s free and works fine. Once activated, press a user-defined hot key to surround your cursor with green circles, or optionally display them after a pre-set delay.

More mouse tools

5 In many ways, PinPoint (£3.99, agentesoft.com) is a refined and feature-packed version of Mouse Locator. It still can’t ape the upcoming OS X ‘wiggle to find’ gesture, but you can choose from a range of pointers and sizes. Handily, it also offers a shortcut to move the pointer to the centre of the screen. Mouseposé (£7.99, boinx.com) is another option; it’s geared towards presentations, with mouse-click highlights and a ‘virtual laser pointer’ mode.

Giant cursors

6 If you just fancy a bigger cursor (albeit a permanently ‘always on’ bigger cursor), you can get it using System Preferences. In Accessibility, select Display and drag the ‘Cursor size’ slider to the right. The ‘Large’ setting is in fact more like ‘enormous’, but you might find a notch or two along helps you locate the pointer more easily, which should be a decent stopgap until El Capitan arrives.

**MORE POWER!**

El Capitan will give Macs a major performance boost. Sadly, there’s no third-party app you can install to make your Mac significantly faster, but there are things you can do to squeeze more power out of an older machine. Where possible, replace an internal hard drive with an SSD, and install more memory. Additionally, cut down on cruft, such as background apps and login items, the latter of which can be managed in Users & Groups > Login Items within System Preferences.

Advanced shape tools

Use Affinity Designer's Boolean and brush tools to add extra detail

SKILL LEVEL

Could be tricky

IT WILL TAKE

1 hour

YOU'LL NEED

OS X 10.7 or higher,
Affinity Designer 1.2

NEXT MONTH

Export modes – learn about the different options and how to preview your final image. See MF288 and MF289 for parts one and two.



In the third part of this series we'll bring our fish scene to life by adding various details, such as a fish leaping out of the water in an attempt to take a bit of the bait, which we thought would be rather fun to make an apple! A fish tank isn't a fish tank without a few little ornaments, so we'll add an iMac to ours. The eagle-eyed amongst you will notice that we coloured ours Bondi Blue, which is the colour of the original iMac – which, incidentally, is 17 years old this August!

In the process of creating the iMac you'll learn about Designer's Boolean operations, and apply several of them when adding the bait. After this, you'll have the skills to customise the image further. Did you add a shark last time? Then why not use the Boolean tools to create a surfboard that the shark has taken a bite out of!

We'll also revisit brushes to help you, err, brush up on your skills. Designer has some very good built-in brushes, which we'll use, though you can create your



You'll use Boolean tools to add ornaments to the tank and a fishing line with a famous logo as the bait.

Designer's Boolean operations and brushes give you the skills to customise the image further

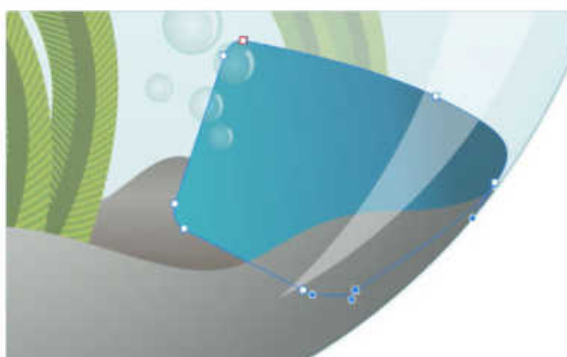
own too. Designer supports a large number of image types, including JPEG, PNG, GIF and TIFF. As with the Booleans, you can experiment with them to really make your fish tank illustration unique. There's even a brush for making chain that's perfect for adding an anchor!

James Robinson

HOW TO | USE BOOLEAN TOOLS TO ADD ORNAMENTS

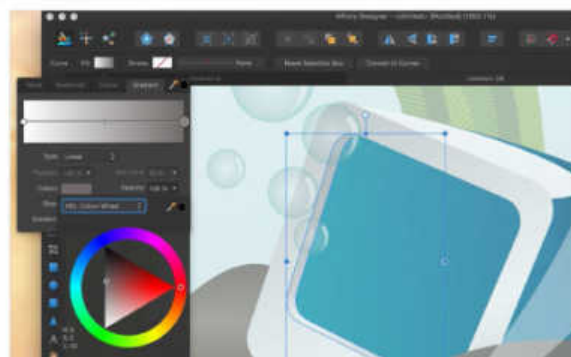
BOOLEAN TIPS

When applying a Boolean tool, it's often helpful to give shapes very different bold colours. This helps to differentiate them when you've got a lot in your image already. You can then recolour them afterwards.



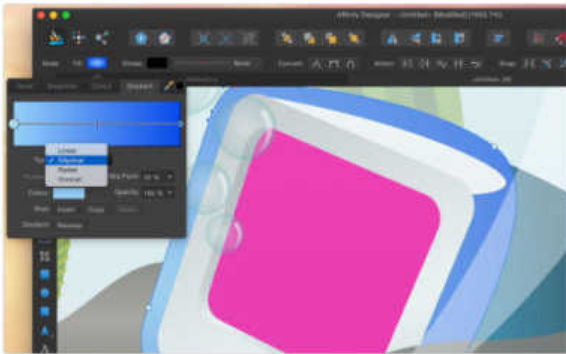
1 Creating the old iMac ornament

Switch to the Pen tool and use it to create an outline of a first-generation iMac. Once you're happy with its shape, make sure it's not stroked and has a gradient. You can give the gradient any colour you want – we decided to make ours Bondi Blue, which suits the watery theme!



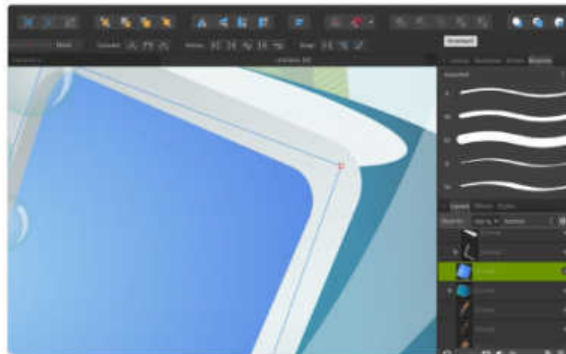
2 Giving the iMac a facia

We need to give our iMac a white facia. Do this in the same way you drew the outline in step 1, this time giving it a very slight grey-to-white gradient. If you want to, you can add a little bit of depth to the iMac by creating the inside of the facia – this is up to you but it can be very effective.



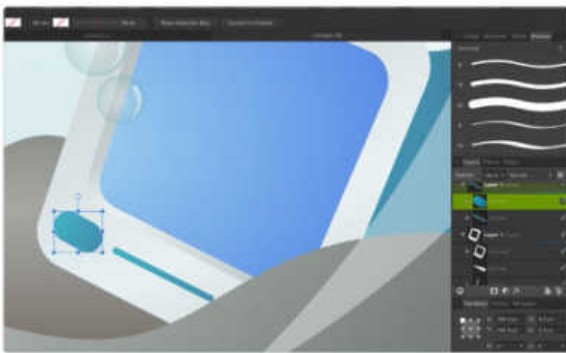
3 An iMac needs a screen

Use the Rectangle tool to draw a shape (of any colour) big enough to fill the iMac's screen area. Move the pointer just past one of the rectangle's corners so the cursor changes, then drag to rotate it to fill the area. Use the Pen tool to draw a rough shape around this, with a glassy elliptical gradient.



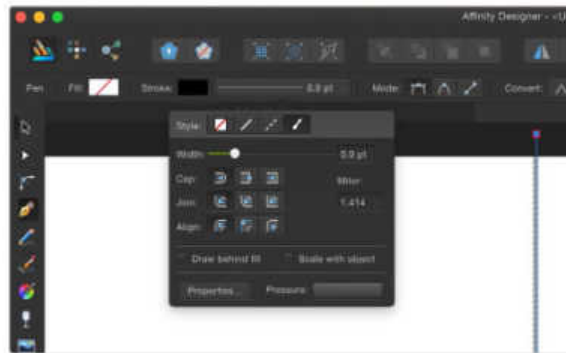
4 Apply your first Boolean

Next, we'll apply a Boolean operation to the shapes made in the previous step. Select the two layers that were created, then click on the Intersect tool near the right end of the toolbar. As its icon suggests, this will create an intersection of the two layers. This will be our iMac's screen.



5 Finishing touches on the iMac

To make our iMac complete it needs speakers (well, the one that will be visible) and a CD drive. Draw them using the Pen tool and give both of them the same sky blue to dark royal blue gradient – although if you've decided on a different colour of iMac, the gradient will need to match that.



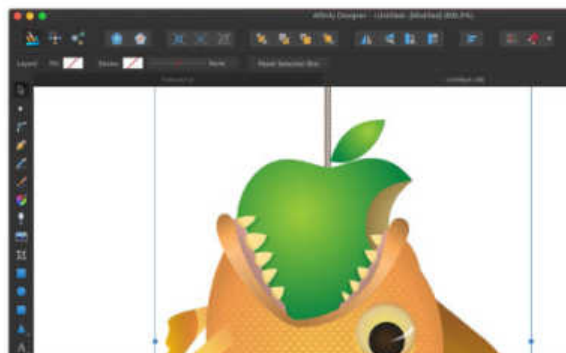
6 Fishing with an apple as bait

We need a line to hold the bait. Draw a straight line with the Pen tool, set its stroke to 0.9pt and, in the Brushes palette, set the brush type to Image and choose Rope - Thick. Add the bait in the same way you created the iMac: draw an apple and a leaf, and give both a greenish radial gradient.



7 Taking a bite of the apple

Our apple needs a bite taken out of it. Create two overlapping circles, the right one a little larger, on separate layers. Colour the smaller one like an apple's flesh. Select them and use the Divide tool. This creates three layers. Delete the right and middle bits to leave the crescent-shaped bite.



8 Like a fish out of water

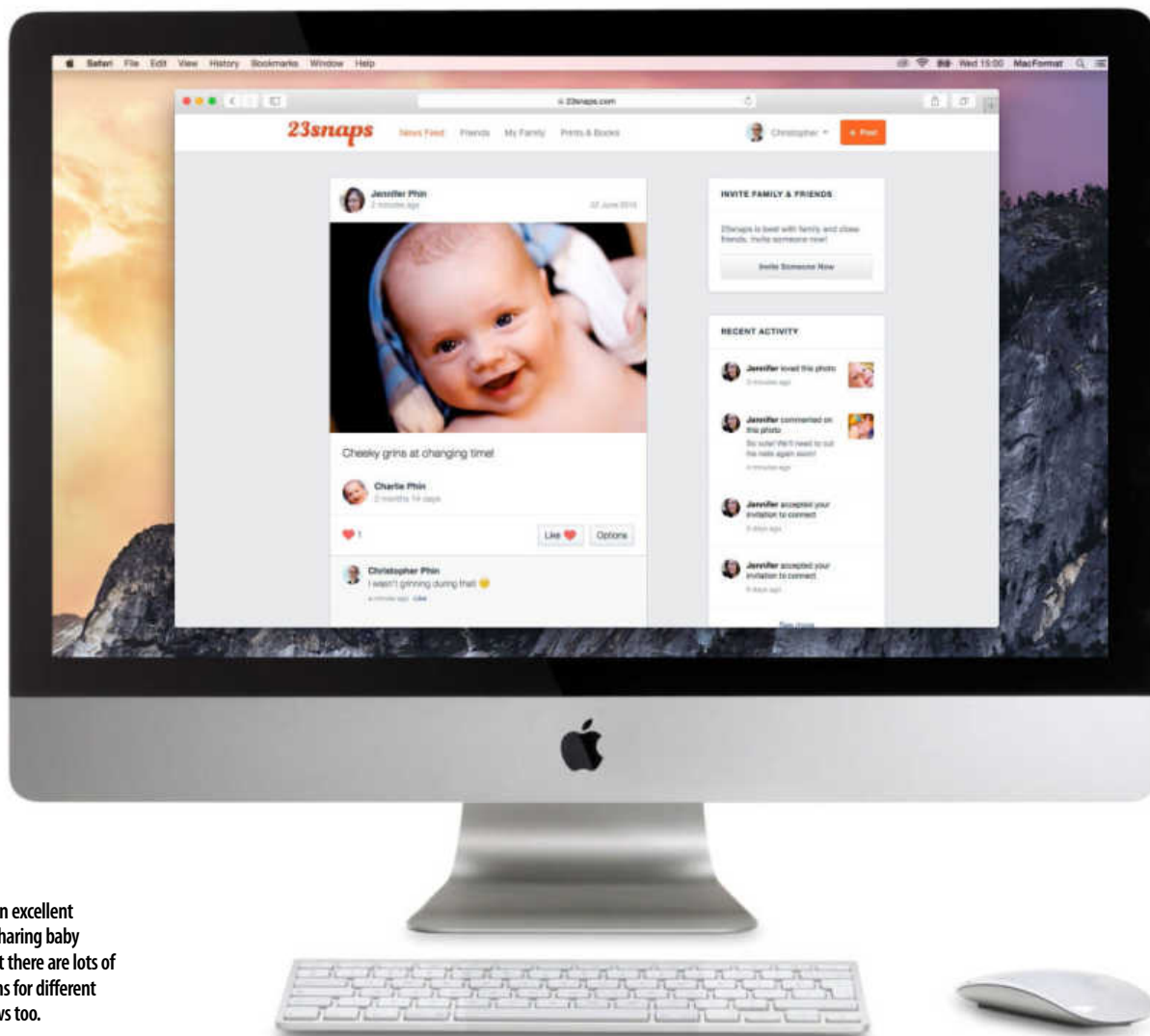
One of our fish is hungry and has jumped out of the fish bowl to try to eat the apple. Create this fish in the same way we made the others in part two. This time, though, give the fish some teeth to hold onto the apple. Adding a shadow from the teeth on the apple makes it more realistic.

BRUSHES

Affinity Designer has some great brushes that you can use as strokes for creating great effects, such as chain or rope. You can also create new brushes by clicking the list icon at the top-right corner of the Brushes palette and selecting an image file.

CUSTOM COLOURS

Tailor gradients by clicking Fill in the toolbar, then Gradient. There are linear, radial, elliptical and conical styles. Their colours can be reversed, new ones added by double-clicking the preview, and the midpoint between pairs can be moved.



23snaps is an excellent service for sharing baby updates, but there are lots of other options for different kinds of news too.

Share personal stuff privately

The best ways to share personal news, photos and videos with sensitivity

SKILL LEVEL

Anyone can do it

IT WILL TAKE

As little as 10 minutes to get things set up

YOU'LL NEED

Some photos to share



The ubiquity of social networks such as Twitter and Facebook means that today not only is it easy to share whatever news and updates we want to with the entire world, but that for many there's a bit of a tendency to overshare. This can be a problem, both for those sharing – since it can have some privacy implications for them, their family or others in their care – and for people who follow them. We all know the hell that is the relentless deluge of rapid updates and barely distinguishable photos from new parents that clog up Facebook!

Happily, we can solve both problems in this tutorial, highlighting techniques and services that make it easy for you to share this news in a way that not only

safeguards privacy but also that keeps the updates from overwhelming those friends, acquaintances and distant relatives who aren't that interested.

Throughout, we'll be using the common example of sharing photos, videos and more to keep people up to date with the progress of a new baby, but in most cases the fundamental techniques we show can be used for a whole range of things – updates from

Make use of the different levels of visibility Facebook offers you for every post that you make

a five-a-side football league, photos from a playgroup, or a big home renovation project, say – basically, anything that you want only a hand-picked group of people to see, either because it involves children (or others whose identities you want to protect) or because you know most people won't be interested.

There are more methods for achieving this than the few we highlight here – and if they work for you, great – but in choosing which to walk you through here, we've concentrated on two things. First, they had to be easy to use, not just for you in sharing things, but also for people you're sharing them with. This is particularly important because, especially with a new baby, you'll probably want to share with some

QUICK LOOK | GET STARTED WITH iCloud PHOTO SHARING**Pick photos to share**

1 We're using Apple's Photos app. The first step isn't to create an album, but to select the photos you want to share from anywhere in your library.

iCloud Photo Sharing

2 With the photos you want to share selected, click the Share button (it shows an arrow popping vertically out of a box) and pick iCloud Photo Sharing.

Configure the album

3 Name the album and then specify who to share it with. Invitations can be sent to someone's email address or a phone number used for iMessage.

Share!

4 Add a little covering message to give some context and then click Create!

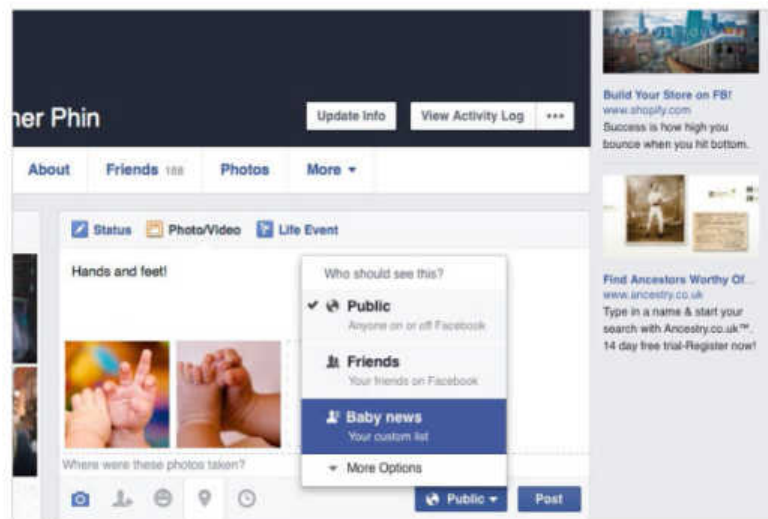


people who are aren't as confident with technology as you, so you need to reduce that friction as much as possible. Second, we wanted services that, for the most part, are either platform-agnostic, or which have apps for a broad range of platforms, since it's likely you'll be sharing with people who use Android and Windows as well as iOS and OS X.

By invitation only

Our favourite of the ways we've found to enable all this is 23snaps (23snaps.com). You can see a step-by-step tutorial on using this free service on the next page. Although this means it's not best suited to other kinds of sharing, its focus on exactly the things you want when sharing news of a baby make it *perfect* for that purpose. With its support for photos, videos, measurements, status updates and the concept of families built-in, you can think of it basically as a kind of Facebook clone built specifically for sharing baby news!

Facebook itself, of course, can be used for this sort of thing, and it's actually really good at it. The trick is to make use of the different levels of visibility Facebook offers you for every post that you make. While for most of



The fine-grained control Facebook gives you over who sees your posts is actually pretty sophisticated.

us, the default options – Public or Friends only – cover what we need, you can create as many dedicated lists as you want of specific Facebook contacts. Create one called 'Baby news', for example, adding only those people you want to share this stuff with, and then when you choose that list from the 'Who should see this?' drop-down at the bottom-right of the compose area, only those people you've added will see it –

and only they will see any activity that happens on it, and they may not share it further. You create lists by placing the pointer over Friends on the left of your News Feed and clicking the More link that appears. Also note that Facebook allows you to create events, such as for a new arrival, and their visibility can also be limited to specific lists.

Remember that you can apply different permissions to different posts

SHARE THE OLD WAY!

Of course, you can share photos and videos the old-fashioned way: on physical media. This has the dual benefits of being private and that technophobic relatives can enjoy your memories. Consider professional photo printing for longevity.

STRIP HIDDEN DATA

Photos usually contain lots of invisible data about the camera and its settings, and those taken with an iPhone usually contain location data too, which could be a privacy risk. Third-party apps can strip out this data before you share photos.

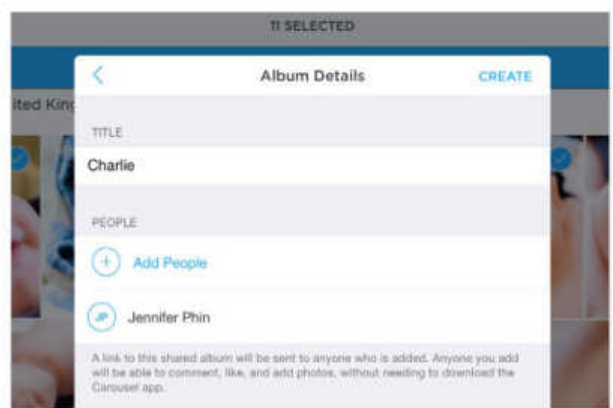
and photos, so you might post an announcement of a new birth to all your friends, significant events to 'Baby news', and an unfiltered torrent of baby updates to another group called Grandparents. You can change the level of permissions after you post too, if you change your mind about who should see it. Note, however, that if you want to apply any sort of privacy at all on Facebook, the people you want to share with will need to have a Facebook account, which might rule out this option for some relatives.

Avoiding social networks

Some people, though, might be uncomfortable with giving so much information to Facebook – it might strike you as especially disagreeable for a new baby to immediately start their life on that site, for example – but there are plenty of other options.

Apple's is called iCloud Photo Sharing, and you can create a shared album from Photos, iPhoto or Aperture on a Mac running OS X 10.9 or later, or from an iOS device running iOS 7 or later. You can invite people to this shared album, and they'll be able to comment on its

Carousel makes it easy to share photos and videos you've already uploaded to Dropbox's servers.



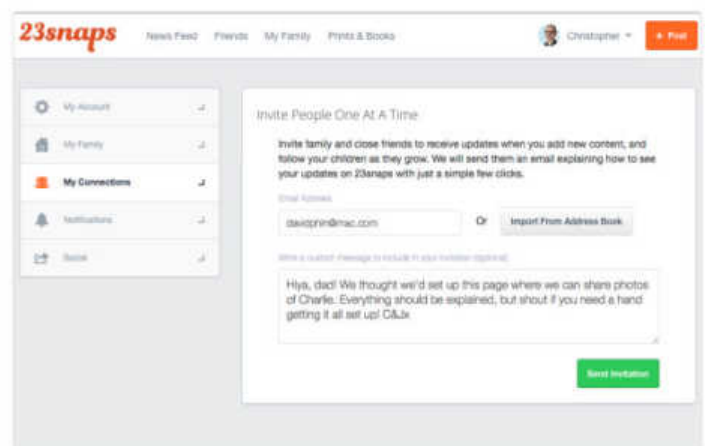
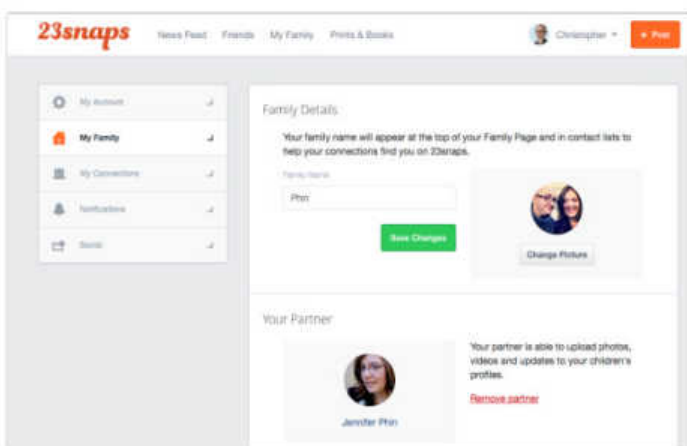
contents and, if you allow it, add their own media. Be aware, however, that unless you enable Public Website in a shared album's settings, only people who use iCloud can see what you post to it, which, unless the people you share with are invested in Apple's ecosystem, may defeat the purpose for many. One nice thing to be aware of: photos and videos shared in this way don't count towards your iCloud storage quota.

Still, you need *some* way to get your photos up and onto the internet so that they're available for others to view, and in part since so many of us already use

Dropbox, it's worth investigating its sharing options, specifically its new Carousel app. As we write, you can only *create* a shared album from the Carousel iOS app, but people you share with can view it either in their Carousel app or in a web browser. The handy thing about Carousel is that it combs through all the files you've synced to Dropbox and lets you easily create a shared album from the photos and videos stored there.

The extent to which your photos are private with Carousel is a little complex. You can choose to make an album available to everyone who has its web

HOW TO | SHARE PHOTOS, VIDEOS AND MORE WITH 23SNAPS



1 Set up your account and family

Go to 23snaps.com and sign up for a new account. You can choose to sign up using Facebook but since it's not preposterous to assume at least one reason people might go down this route is that they're a little uncomfortable with Facebook, signing up for a clean 23snaps account is probably preferable. Once you're signed in, go into your account settings, click My Family in the sidebar on the left, then add your partner if you have one (they will be sent an email prompting them to sign up for an account) and your children's details – whom you can later tag in updates.

2 Invite more friends and family

Your partner gets special privileges to post to your family timeline just like you can, but your next step will probably be to add the friends and family you want to share your news with. You do this by clicking My Connections in the settings page's left sidebar, then either entering one email address at a time (with an optional covering note) and sending invitations, or by importing from an address book such as Gmail's. When the recipient clicks the 'I want to see the photos!' button in the invitation, they'll be prompted to log in or, more likely, sign up for a new account.

address – that is, the photos aren't protected on the web, and while it's highly unlikely anyone would stumble across them, you don't have any control over the link being shared further by others – and then also optionally allow anyone with the link to comment or just view. Alternatively, your friends and family can log in with their respective Dropbox accounts to see everything and like and comment on photos too.

If you're a big Twitter user, consider setting up an account for your new baby, your sports club or some other entity, and setting it as private, only allowing the accounts you bless to see the updates and photos you post there.

Finally, don't forget about iMessage and email – yet also bear in mind their limitations. While this is one of the most private ways to share media and news – especially in the case of iMessages, which are encrypted in transit – it's also a bit of a faff, and the logistical overhead involved in sending stuff by email to everyone who wants it, rather than just making it all available in one place for them to come and get can be onerous.

If you go down the route of sharing by email, be aware that you'll need to



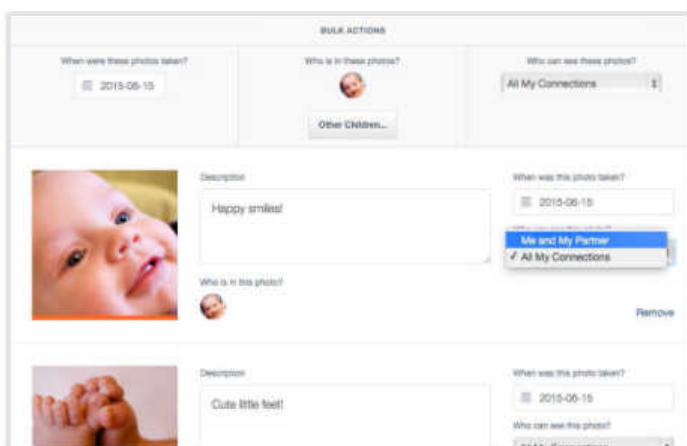
If you email photos using Mail, consider using its **Image Size** option, which can reduce their file size – at the expense of quality.

Don't forget about iMessages, which are encrypted in transit between you and their recipients

balance quality with file size. Photos attached at their full resolution might not send, or might fill up or even be rejected by the recipient's mailbox (though Mail Drop can help with this), and if you shrink the size of the photos, they might not look as good at the other end, especially if recipients print them out. That goes double for videos – consider uploading them to YouTube or Vimeo instead, and setting privacy options there. **Christopher Phin**

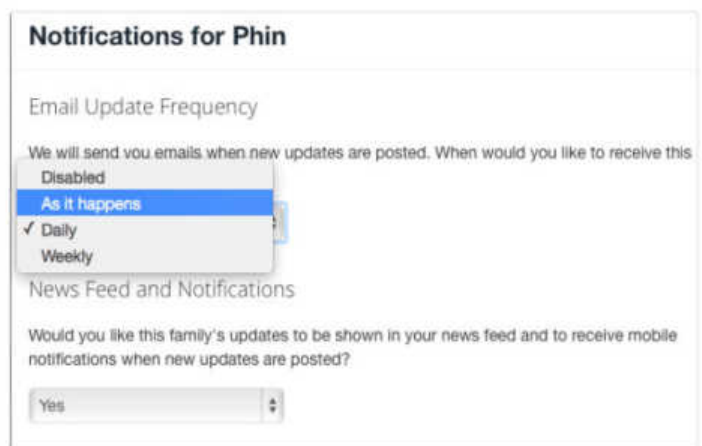
JARGON BUSTER

Mail Drop is a feature of OS X 10.10 that enables sending files up to 5GB in size using Mail, by attaching them to an email as usual – though there's clever stuff going on behind the scenes. See <http://apple.co/1HeOWIP> for more details.



3 Share your photos and more

Once you're logged in, the big Post button at the top-right gives you the option of uploading photos, videos, a status, your baby's weight or height, or a Story, which combines photos and text. For anything you post, you have the option of setting it to be visible to all your connections or just to you and your partner – even if you're uploading a group of photos at once, say. Note that you can tag each of your children in each update. Apps available for iOS, Android, Windows and Kindle Fire can make posting easier, and for your friends and family to keep updated.



4 Choose notification frequency

Every person you invite to your family updates can set notification preferences, including getting email updates highlighting everything you post, either immediately or in a daily or weekly digest – ideal for your less tech-savvy relatives who would struggle even with logging into the site or using an app. You might need to set up their account for them initially, after which they'll receive email updates. Finally, if you want to stop using 23snaps, from the settings page you can request a link that downloads everything you've uploaded, and you can close your account there too.

techradar.

TECHNOLOGY. TESTED.



VISIT TECHRADAR, THE UK'S LEADING TECH NEWS & REVIEWS WEBSITE

- Up-to-the-minute technology news
- In-depth reviews of the latest gadgets
- Intensive how-to guides for your kit

www.techradar.com



twitter.com/techradar



facebook.com/techradar

Boost MacBook battery life

Enjoy your MacBook for as long as possible with these easy remedies

SKILL LEVEL

Anyone can do it

IT WILL TAKE

20 minutes

YOU'LL NEED

A MacBook



MacBook batteries last most of a working day before you need to plug in for a recharge. Apple reckons the latest models can last for most of the working day. However, older MacBooks can't match this longevity. Who doesn't want to be able to use their laptop for as long as possible before giving in to being tethered to the mains while it recharges? One way to overcome this tethering

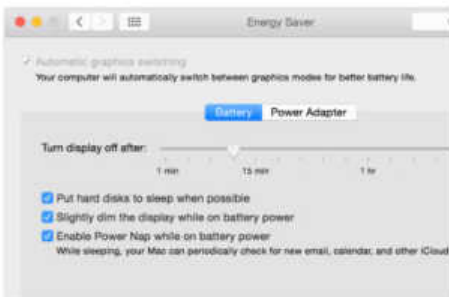
tyranny is to carry an external battery pack. This adds to the bulk in your bag, but buys you a few more hours of mobile working or entertainment.

However, judicious use of preferences on your Mac can make a material difference too. Usefully, OS X provides several built-in energy monitoring and management tools to help you eke out extra battery life. Turning off Wi-Fi and Bluetooth might be sensible since both

use energy looking for wireless connections but you need to weigh up whether you want to be without the ability to use AirDrop, iCloud Drive and Continuity features such as phone call and SMS relay from your iPhone to your Mac before you click the Wi-Fi icon in the menu bar and turn it off. Let's take a look at other useful ways make your MacBook's battery last a bit longer.

Rosie Hattersley

HOW TO | EXTEND YOUR MACBOOK'S RUNNING TIME



Choose mobile settings

The Energy Saver pane in System Preferences should be your first port of call. Click Battery to change settings for mobile use. You can adjust how quickly the screen and hard drive switch off when the Mac is idle, and whether Power Nap is active – see <http://apple.co/1HjNZuH> for details.



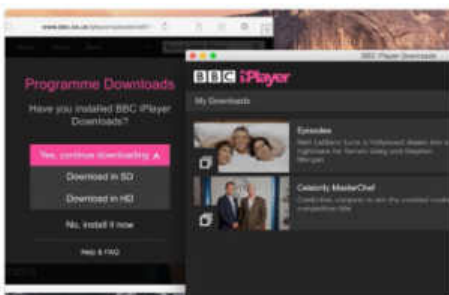
Get system updates

System updates sometimes include tweaks to power management. In the App Store pane in System Preferences, turn on automatic checking for updates, and the options to download and install them. Note that Power Nap only allows updates to download while on mains power.



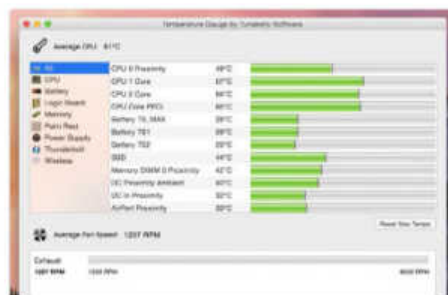
Keep an eye on the time

An estimate of how long your Mac's battery will last under current activity is shown when you click the battery icon in the menu bar. You can turn on a percentage indicator too. The menu identifies any open apps that are contributing to power drain, in case you want to close them.



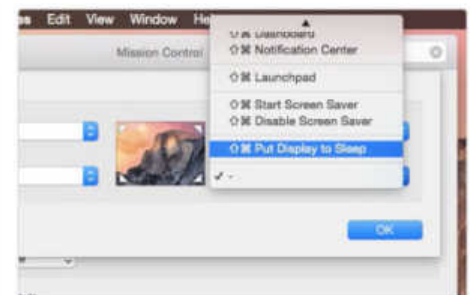
Limit streaming and video

Streaming a lot of online video from sites like iPlayer and YouTube can put a dent in battery life because your Wi-Fi connection will be very active. Remember, some video services, such as iPlayer (bbc.co.uk/iplayer/install), permit you to download content to watch offline.



Monitor the temperature

A hot environment isn't healthy for your Mac, and a busy hard drive (rather than flash storage) will further contribute to heat inside your Mac. A hot processor is bad news, and will cause your Mac's fans to spin up. Monitor heat levels using Temperature Gauge (£3.99, Mac App Store).



Check for energy hogs

CoconutBattery (free, coconut-flavour.com) provides a health check for your battery by showing its current maximum capacity and its original capacity when new. Finally, in Mission Control's preferences, set a Hot Corner so that you can put the display to sleep in an instant.

Create super-smart folders

Unleash the power of a little-known automation feature built into OS X

SKILL LEVEL

Could be tricky

IT WILL TAKE

As little as 10 minutes
for a simple one

YOU'LL NEED

OS X 10.4 or higher



For a long time OS X has had Smart Folders, whose contents dynamically update to match criteria

you set, such as 'Pages documents opened in the last month'. But those folders are dumber than a bag of rocks compared to what you can do with Folder Actions.

Automator is one of the unsung heroes of the Mac; few people know what to do with it, and even fewer use it to make Folder Actions. Let us induct you into this most special of *inner* inner circles, and share with you the secrets of unlimited power. Well, so far as it applies to automating some tasks in your Mac.

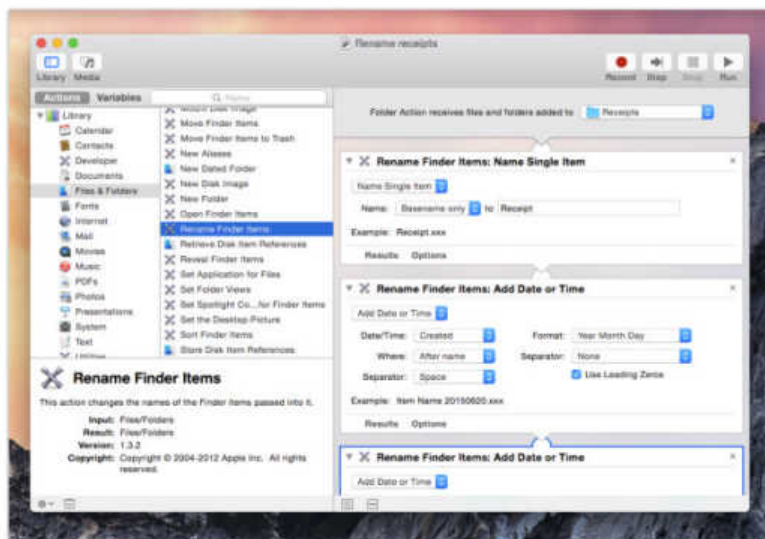
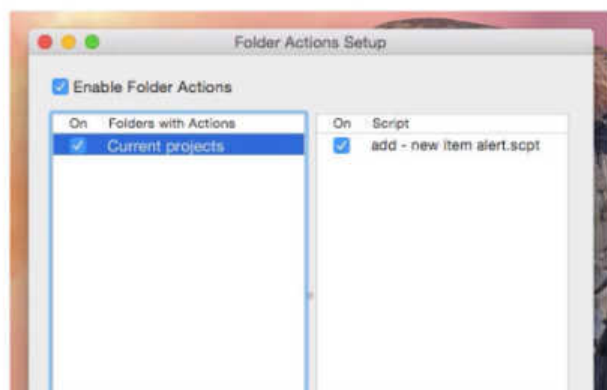
A Folder Action is a script – you could also think of as a mini-app – built in Automator or using AppleScript, which you attach to a folder on your Mac. Any file you add to that folder triggers the script to run, applying the actions you specified in it to that file.

What's in a workflow?

As with Automator itself, while it might be easy to grasp in the abstract the flexibility of Folder Actions, it can be hard to work out exactly what you can do with them – why, in other words, it matters – so on the opposite page, we've given examples of Automator workflows you can create yourself!

On this page, though, we explain the basics of how to set up a workflow in Automator, attach it to a folder, test it, and manage your Folder Actions. Open Automator (it's in your Applications folder), create a new workflow and, from the range of different types offered, pick

OS X includes some built-in Folder Actions, such as this one to get an alert when a file is added.



Easily snap together actions which will act on any files you drop into a folder of your choice.

Folder Action. The only thing that makes the process of creating a Folder Action workflow different to any other – in case you're already an Automator whizz – is that you don't need to add any file-specifying actions such as Get Selected Finder Items or Get Specified Finder Items to tell it what to process. Once the workflow is attached to a folder, it will automatically act on any items dropped *into* that folder, so you

Folder Actions are easy scripts that act on any files added to folders they are attached to

don't need to do anything else to tell the workflow what to process. (On old versions of OS X, you have to save the workflow as a plug-in, specify its type as Folder Action, then tie it to a folder.)

Instead, note the drop-down menu at the top of the workflow, which allows you to specify which folder it should be attached to; you can set this at any time during the building of your workflow.

Now, to build your workflow, browse the list of actions in the pane on the left of the Automator window, and drag the

ones you want into empty pane on the right. These actions 'click together' in that right-hand pane, so that if, for example, you want to create a Folder Action that both resizes screenshots and converts them from PNG to JPEG, you can drag in the Scale Images action and then drag and drop the 'Change Type of Images' action below it. The files are first resized as specified, then the resized versions are passed to the next action to be converted to your requested format.

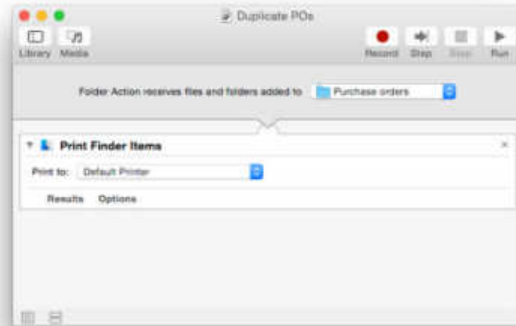
Manage Folder Actions

Once you're happy with the structure of the workflow, and have specified the folder it should be attached to, close and save it, then add a *copy* of a file – in case anything goes wrong – to that folder and check it does what you expect; you'll see a cog appear in the menu bar while the workflow is running in the background. If not, go back to Automator, open the workflow under File > Open Recent... and check its configuration again.

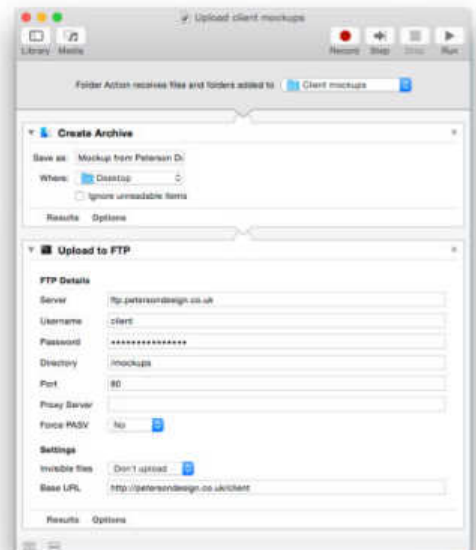
To manage your Folder Actions – to see which folders have them attached, and to remove them if necessary – right-click any folder and choose Services > Folder Actions Setup. The workflows themselves are stored in ~/Library/Workflows/Applications/Folder Actions. **Christopher Phin**

HOW TO | PUT FOLDER ACTIONS TO GOOD USE**Automatically print select documents**

Each of us is aware of the environmental impact of printing, but for some documents, having a hard copy is a boon – even mandatory in some circumstances. Attach a Folder Action containing the Print Finder Items action to the folder where you store documents of this sort – perhaps the Web Receipts folder that OS X creates (in your Documents folder) when you choose Save PDF to Web Receipts Folder in a print dialog, or wherever you keep purchase orders if you run a business. All documents added to the folder will be sent to the printer you



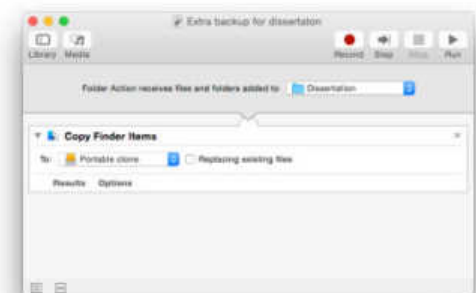
specify here. Remember, you can create printer pools in System Preferences where: -click those to pool together, click Create Printer Pool, then pick that pool in the action to send things to the first available printer.

**Compress and upload files**

You can extend Automator's power with actions from third-party developers. For this example we've used Peter Dekkers's Upload to FTP action (free, <http://bit.ly/1L1I5Cz>). When we add a group of files to our designated folder, the Create Archive action compresses them into a Zip file, and the Upload to FTP action puts the Zip on your server. You could optionally use Rename Finder Items to add a time stamp to the file.

Streamline the sending of invoices

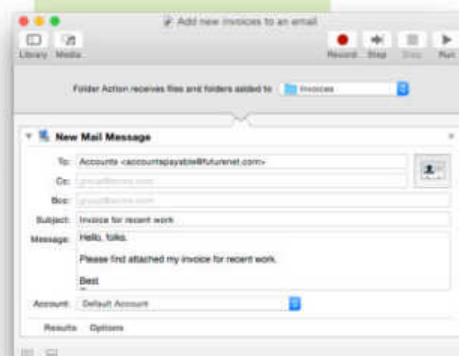
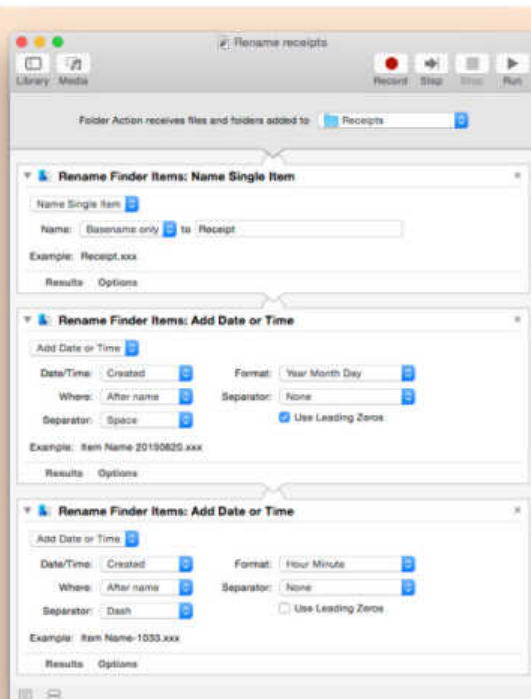
In this example, every time a file is added to a folder called Invoices, the New Mail Message action creates a new, partly-written email (for you to fill in the blanks) and attaches the file to it. This works whether you manually drop a file into the folder in Finder, or export a PDF from the print dialog in Numbers, say, or an online service. By creating subfolders for regular clients, you can create separate Folder Actions that fill out the message's recipient.

**Duplicate to another disk**

We've almost certainly browbeaten you into at least backing up your Mac using Time Machine (see MF288), which is good, but with some projects – a university dissertation or a big project at work, say – you might want the belt-and-braces reassurance of manually copying files to an external flash drive or hard drive as well. A Folder Action workflow containing only the Copy Finder Items action does just that for you. Leaving the action's 'Replacing existing files' option unchecked will mean a messy proliferation of duplicates on the external drive, though it does give you a crude versioning system.

Rename scanned files in a paperless office

If, however, you're trying to go paperless, the Folder Action shown above will rename any files you add to a folder to use a common base name (in our case 'Receipt', though it can be whatever you want) followed by a date and time stamp based on when the file was created. Note how you can add multiple instances of the same action, each with different settings, to continue acting on a file.



Back up using Google Photos

Get unlimited free cloud photo storage even for Apple's apps

SKILL LEVEL

Anyone can do it

IT WILL TAKE

20 minutes

YOU'LL NEED

OS X 10.10 or higher, a Google account, iPhoto or Photos, an iOS 8 device (optional)



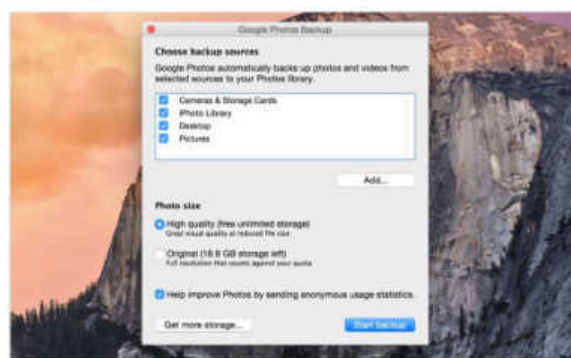
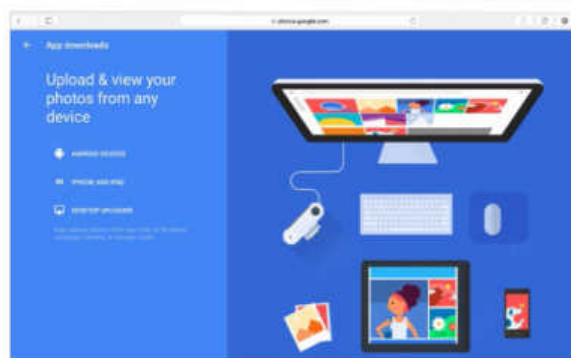
Google has always been more generous with its free cloud storage than almost any other tech company – including Apple, which charges you for extra iCloud storage. Google recently made its cloud photo storage essentially unlimited for high-quality versions of your pictures (up to 16 megapixels). Images above that

quality count against your free storage limit, but that won't apply to most people – and certainly doesn't to iPhone photographers. However, Apple hasn't added an option to upload from its Photos app to Google Photos – at least not as easily as you can to iCloud.

The good news is that you can store your photos in Apple's app and upload them automatically to Google Photos,

and the same goes for the Camera Roll on your iOS device. So even if you have thousands of pictures, you don't have to worry about running out of iCloud storage, which you might need more urgently for documents, backups and email. Once in Google's cloud storage, pictures can be searched, organised and shared from across your different devices. **Hollin Jones**

HOW TO | UPLOAD UNLIMITED ITEMS TO GOOGLE PHOTOS



1 Get the free app

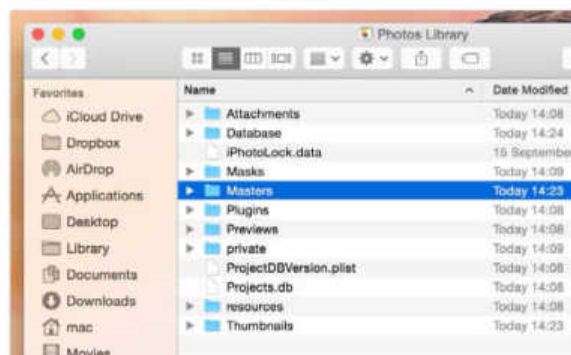
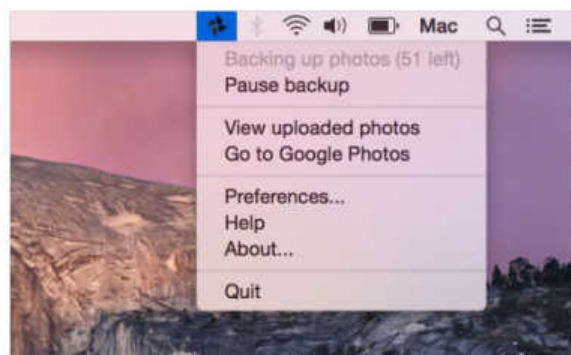
You'll need a Google account (free, accounts.google.com/signup) and Google Photos Backup (free, photos.google.com/apps). Copy the app to your Mac's Applications folder, open it and sign in to your Google account. You'll then be prompted to choose a photo source.

2 Choose what to scan

You can direct the app to scan cameras and storage cards, folders (including the Desktop and Pictures) and your iPhoto library, and upload pictures automatically. The high quality option provides unlimited storage, or you can choose Original, which counts against your account's storage limits.

TOOL SCHOOL

Google Photos Backup uses **watch folders**, (as do many other apps, such as Dropbox). It monitors these folders for new content and uploads it immediately to save you having to remember to back up your stuff.

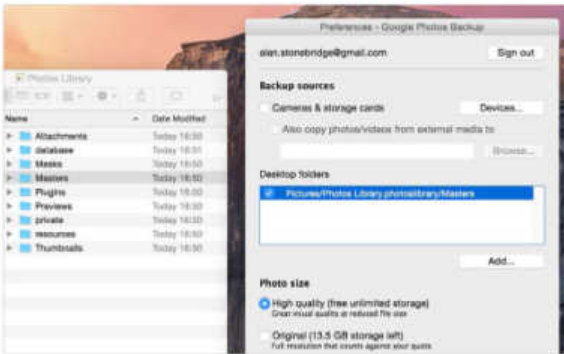


3 Start the upload

When you click 'Start backup', the app will upload pictures in the background. The process can be paused from the menu bar, and you can jump to your Google Photos account page from there. When the app is running, it will watch your chosen locations and upload new photos it finds.

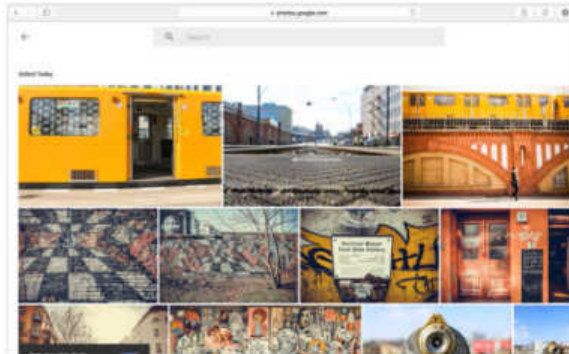
4 Hack your Photos library

The library format used by Apple's Photos app is not yet directly supported by Google, but it's easy to incorporate into your backups. Go to your Pictures folder, right-click the library and choose Show Package Contents. Here, the Masters folder holds the originals of items imported into the app.



5 Link in the Masters folder

Click Google Photo Backup's menu bar icon and pick Preferences. In the window that opens, click Add to specify another folder that Google Photo Backup should watch. Drag the Masters folder mentioned in step 4 into the window that Google's app just opened and then click Choose.

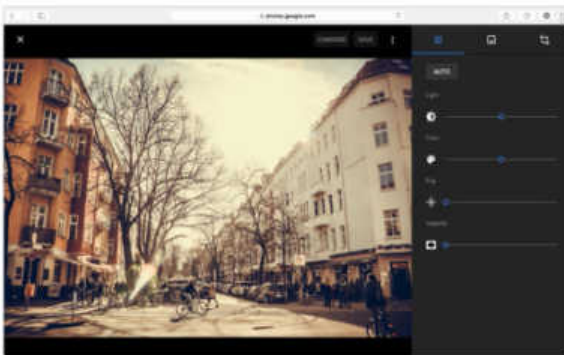


6 View your photos

Google Photos Backup will watch your specified folders and upload any new photos added to them. Click its menu bar icon and choose 'Go to Google Photos' to confirm things have uploaded to Google's servers. Your photos can be viewed wherever you can sign in to photos.google.com.

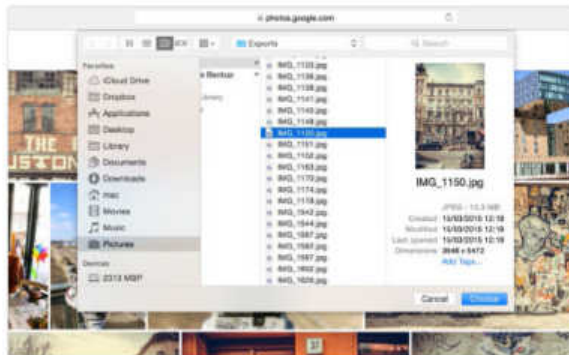
BACK UP YOUR iOS PHOTOS

You can use the free Google Photos app for iOS to back up all your pictures from your iPhone or iPad too. In fact it's even easier than on the Mac: just get the app, select the photos from your Camera Roll and start the upload. Like the desktop version the iOS app can automatically upload any new pictures you take with your device.



7 Edit pictures online

Google Photos' web app even lets you edit pictures. Select one and you can perform similar edits to those you might make in iPhoto or the Photos app on your Mac. You can post your pictures to Google+, Facebook and Twitter, and copy a link to share by other means, such as email.



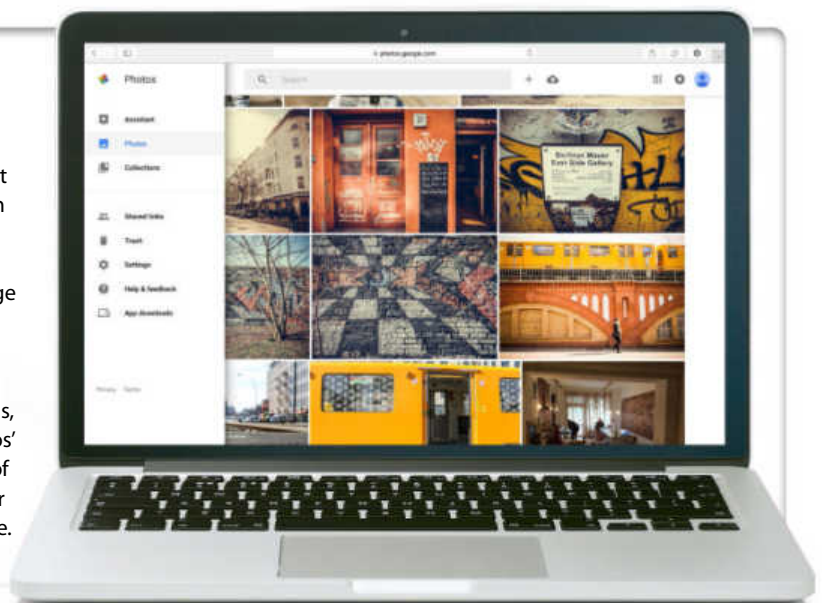
8 Manage your catalogue

Google Photos' web app also lets you organise images into albums, add titles and descriptions, and search them. It's possible to upload pictures from any computer by dragging files directly onto the website – handy to ensure you have an online backup if your Mac is unavailable when travelling.

THE END RESULT

➤ Once your pictures are in the cloud, you can manage and edit them freely using any web browser. You can also upload from multiple devices as long as they are all signed in to your Google account – though, of course, if you have opted to use the maximum quality option this will count against your total storage allowance. If you go for the 'high quality' option instead, your storage is free and unlimited.

At the top-left corner of photos.google.com, clicking the list icon reveals a panel from which you can manage upload settings, recently deleted files, collections and shared links. Google Photos' free and unlimited nature is great for all but the most exacting of people because it's an incredible opportunity to back up all your photos to the cloud without paying Apple for more iCloud space.



Apple TALK

Have your say on everything Mac, OS X and iOS



Welcome...

There's always plenty to say about Apple, whether it's good or bad. And we'd particularly love to hear what you think? Write to us at letters@macformat.com and the remember, the Star Letter wins a prize!

GET INVOLVED

Apple Mail	64
Photo Stream	66
Mac User Groups	67
Ask the Experts	69
Win a great router	86

JOIN US ONLINE

-  Emailing your questions to letters@macformat.com
-  Visit macformat.com for more great Mac news
-  Join the conversation with our Facebook page
-  Keep up to date by following us on Twitter at @MacFormat
-  Are you on App.net? So are we! We're @MacFormat there too
-  Subscribe to our videos at youtube.com/MacFormatUK



STAR LETTER



You can choose which gestures are active on a Multi-Touch trackpad.

Tracked off!

I recently spent almost £2,000 purchasing a high-spec MacBook Pro which came with this type of trackpad and now I regret it. The pad is a disaster and most of the time does not function as is claimed in the sales blurb. Having used a conventional Apple

trackpad since they first came on the market, I have enjoyed many hours of surfing and so on. Now I find that if my finger lingers for a brief second too long then the page I am viewing either disappears and is replaced with something else, or if the cursor is not in the right place then I am presented with god knows what.

I have tried adjusting the pad with the sparse information supplied and even after talking to Apple nothing has changed. Indeed, I have come to the conclusion that the pad is faulty and propose to return it to my local Apple Store for investigation. If it reports that it's okay then the Mac will go straight onto eBay. I'll make a thumping loss but frankly I do not care anymore!

Why Apple came up with this idea and, indeed, many more of its recent inventions baffles me. The only people who may gain from this pad and many of the other system tweaks are gamers. What Apple should concentrate on are the serious users of their products and should bear in mind the old maxim: "if it ain't broke, don't fix it".

David French



YOU'RE A WINNER!

Drop us an email at letters@macformat.com. If yours gets picked as the MacFormat Star Letter, you win a Just Mobile AluCable Flat for connecting iOS devices with a Lightning port to a Mac.



Alan Stonebridge says: Looking up the serial number you provided confirms that it's definitely a Mid 2014 model. The next one, with a Force Touch trackpad, was announced and went on sale on 9 March. Before getting the trackpad checked, let's try to resolve its sensitivity; it's perfectly natural even to rest your fingers on the trackpad, but some behaviours are all too easy to trigger with just a small amount of movement. In System Preferences, click Trackpad and start by disabling at least the items under More Gestures.

See how you get on, and over time re-enable and try out any gestures that sound useful, one at a time. Put the pointer over an item to see a demo on the right. If the trackpad still misbehaves, then you certainly should get it diagnosed by Apple.

Text mates

I just finished reading your Free Mac Apps article (*MF289*). I was excited to see you compare these apps to some well known premium alternatives, I was hoping to see a good alternative to Adobe's Dreamweaver. However, my search for a good free alternative to that app goes on, but I will be checking out Gimp and Inkscape. Besides TextWrangler though, I think you missed a good free text editor – if you're a Sublime Text (£50) fan, then I think Mac users should know about TextMate 2 from macromates.com. It's in beta and has been for a while now but it's very well featured with built-in syntax formatting for nearly every conceivable language and format. I use it a lot at work for creating Bash and Perl scripts, as well as HTML and CSS editing and writing.

Owen Compton



Christian Hall says: We're glad you liked it, Owen. It's incredible to think that such amazing tools can be obtained for free, and Mac owners shouldn't immediately dismiss free apps. Regarding Dreamweaver alternatives, MacFormat rated RapidWeaver from Realmac Software (realmacsoftware.com). For more straight coding there's Coda from Panic (panic.com). Both are paid-for apps. TextMate is free in its beta form, but we didn't include it because the developer states that future versions might require a licence, hence payment too.

Counting the cost

I am somewhat amazed at how we Apple users in the UK appear to suffer with a unique currency conversion rate with the US. In the USA, the cost of an Apple Music subscription is just \$9.99/month, but over here it's £9.99/month. Given that the current rate of exchange is around US \$1.57 to the pound, we are being charged over a third more! Does this mean we are giving a higher percentage to the musicians than those across the pond?

I asked at our local Apple Store if they had any insight to this and the reply I received was "that's a great question – perhaps it's the tax" and another simply gave me the response "well it's still a great deal". When it comes to buying hardware I can understand it, but when it's simply a service using the same servers how can this be justified?

John Deane

If you missed our feature about free apps, you can buy a digital copy in the MacFormat iOS app.



Paul Blachford says: Apple's not unique in this practice by any means. There's a long-held perception that, compared with our transatlantic cousins, we pay a premium for various goods in the UK. Electronics are often the worst offenders by a long way. Part of the reason is indeed that we pay more base tax in the UK than the US.

When it comes to software services, you'd think there might be a difference but it can be the same story. For example, Adobe's Creative Cloud costs around 30% more annually in the UK. Apple Music is following the same pattern adopted by others – in fact, it costs exactly the same as Spotify. It's not great, but isn't going to be changing any time soon. Also, bear in mind that royalty agreements with labels might differ between regions.



Share-mare

Firstly, well done on the mag, I look forward to it every month, it's a great read! I am writing with regards to the new Apple Music family plan. I have signed up to the free trial of it and I'm making use of Family Sharing (as the organiser) so my daughter and my wife can also get Apple Music. The question is, just before the end of my free trial of Apple Music, if my wife

starts a three-month free trial under her ID and we change our Family Sharing setup so my wife is the organiser and she adds us all to it, and I cancel my free trial, will we then get another three months of Apple Music for free? And could we do this a second time using my daughter's ID to get nine months of it for free? In theory if you had use of all six Family Sharing slots with six different IDs, could you do a merry-go-round all of them and get an 18-month free trial?

Keith Roberts



Seth Singh says: The fly in your ointment is that when someone else in your family opens iTunes, they're automatically prompted to enable the benefits of Apple Music as part of their family's subscription, rather than signing up for their own trial period. Notice that they don't see reference to the three-month trial at the top of the For You page, which is where you would normally go to enrol in the trial if you turned it down the first time you opened iTunes 12.2.

It seems unlikely that Apple will have overlooked the scenario you propose – it has considered other ways you might think of to game the system; for example, tracks downloaded from Apple Music aren't treated as purchases and so they aren't listed in your iTunes Store account's list of previous purchases (because they aren't actually purchases, just rented content, and they contain DRM anyway). We'd be surprised if Apple isn't already flagging up accounts that are part of a family plan as having already taken part in a family trial and therefore ineligible for several free passes.

PhotoSTREAM

Send the best of your iPhone shots to photos@macformat.com



Winding river This shot of Ingram Valley, Northumberland was taken on an iPhone 6 by Mark Dean and tweaked in iPhoto on his Mac.



Port of call George Thomas's sunset snap was taken on an iPhone 5c with no editing. It shows the back of his son's house in Port Macquarie, Australia. Very nice!



Back to the seaside To the delight of MacFormat's Editor, who hails from Clevedon, Gavin Smart's pier picture was shot on an iPhone 6 and enhanced in Snapseed.

Drive Dilemma

On page 36 – the ultimate solution – of issue 288 there is reference to “Mean Time Before Failure” which is something I’d not heard of before and did not know how to calculate. I use a set of Western Digital My Passport 1TB drives to back up to Time Machine. I went to the WD site to find what the MTBF was for these drives to find that it said they no longer provide this information. Instead it said: “We no longer measure the reliability of our hard drives using Mean Time Between Failure (MTBF). Our current drive reliability is measured using Component Design Life (CDL) and Annualized Failure Rate (AFR). The Component Design Life of the drive is five years and the Annualized Failure Rate is less than 0.8%”.

Would you please translate this for a non-technical person. What does the 0.8% refer to; is it a percentage of drives sold each year? Presumably Component Design Life means that the drives are designed to last five years. So for a good safety factor is it best to change them after three years? I know I could ask WD about this but I’m sure that there are many of your readers in a similar position to myself who would welcome further advice.

John Myring



Christian Hall says: MTBF is actually an engineering standard that’s expressed as a complex mathematical formula. It, and other similar methods, are calculated by constantly running samples of the drive for a short amount of time, analysing the resultant wear and tear upon the physical components, and extrapolating to provide a reasonable estimate of its lifespan. It’s a ‘military standard’ but deemed as not the best method to calculate failure rates by most drive manufacturers now. AFR is broadly speaking the industry replacement and the percentage you cite refers to the probable percentage of failures per year based on the manufacturer’s total ‘installed’ units – namely, those sold. So, just under a one in 100 chance of a drive failure in its ‘Design Life’.



Incorrect CD details likely stem from multiple matches in a database.

That’s not bad at all, and you shouldn’t feel pressured to change every three or four years. As ever, backups are your top priority, whatever drive you’re using.

Title terrors

There are times when you begin to wonder whether updating is sensible. I have just loaded iTunes 12.2 and my first task was to load a CD of songs which we, as a charity, use for funerals. When the songs were imported the titles were in Japanese rather than English! I have tried to find a way of fixing the problem via preferences but to no avail.

There is currently no help in the Apple forums. Do you have any ideas for how to ensure this does not happen in future? My current workaround is import the tracks into a folder and manually change the titles but this should not be necessary.

David Simpson

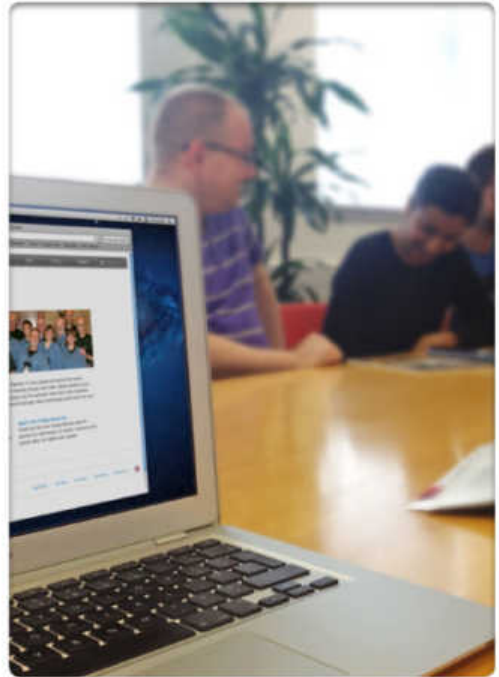


Alex Blake says: This sounds like the result of a couple of iTunes’ preferences for dealing with CDs. In iTunes > Preferences > General, is the option ‘When a CD is inserted’ set to import the disc’s contents? If so, iTunes will do this without any intervention from you. I suspect that the option right below that, to automatically retrieve CD track names from the internet, is also enabled, and that your disc is being matched to an incorrect item in the online database of discs. You’ll want that setting on for convenience most of the time. So, change the first preference’s setting to Show CD, click OK and then put the disc in your Mac. You can then review downloaded details before import. Sometimes iTunes will offer a choice of discs; you might find one of them matches your disc’s actual contents.



User Groups

Find fellow Mac enthusiasts near you!



Search the list below to find your local Mac user group – and if you can’t find one, why not start one yourself? It’s easy and fun.

Berkshire MUG
vlsburia@me.com

Bracknell Forest MUG,
Bracknell, Berks
bfmugoffice@gmail.com
bfmug.org

Bristol and Bath MUG
robert@bbmug.co.uk
bbmug.co.uk

ClubMac Ireland, Dublin
secretary@clubmac.ie
clubmac.ie

Cork University College, Cork
d.murphy@cs.ucc.ie
ucc.ie/mug

Cotswold MUG
paul@cotsmug.org
cotsmug.org

Cumbria Mac Enthusiasts,
Barrow-in-Furness
contact@macenthusiasts.co.uk
macenthusiasts.co.uk

Edinburgh MUG, Edinburgh
Twitter: @edmug
edmug.org.uk

Exeter MUG, Exeter
examug@mac.com
examug.org.uk
Twitter: @examug

London MUG, London
secretary@lmug.org
lmug.org.uk, @londonmacgroup
Facebook: facebook.com/groups/35108081221

Midlands MUG,
Birmingham
mmug.org.uk

OxMUG, Oxford
oxmug.org

South Essex MUG, Wickford, Essex
seal-apple.co.uk

South Wales MUG
terence.neels@btinternet.com

Suffolk Mac User Group,
Ipswich
mikekwasniak@me.com
suffolkmacusergroup.co.uk

Sussex MUG
adamfield@gmail.com
sussexmug.org

Three Counties MUG Luton,
Bedfordshire
chris@3cmug.org.uk
3cmug.co.uk

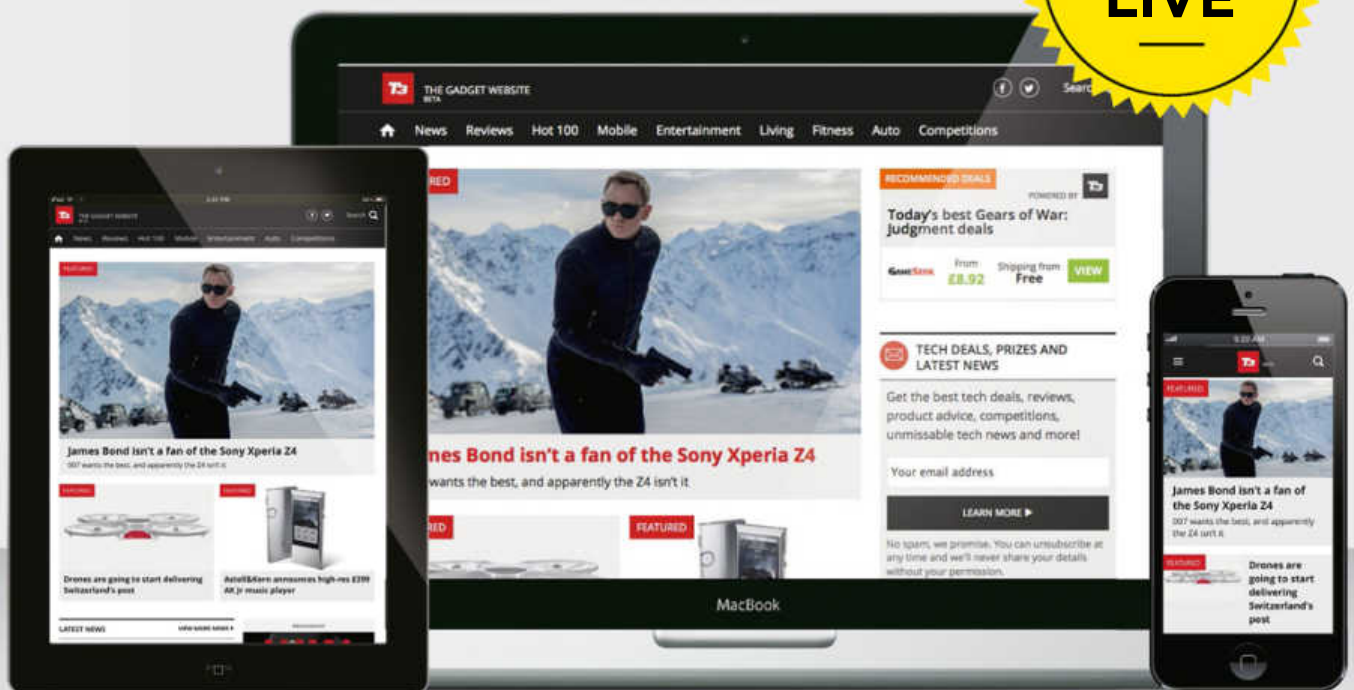
Wessex MUGs Fareham,
Dorchester, Bournemouth
& Salisbury
wamug.org.uk

T3

THE GADGET WEBSITE

INTRODUCING THE ALL-NEW T3.COM

**NOW
LIVE**



Showcasing the very best gadget news,
reviews and features, now optimised for
any screen, anytime, anywhere.



www.T3.com



GET IN TOUCH

If you have a technical issue that you need help with, please email us at: sos@macformat.com

MacSOS

Your questions answered by our Apple expert in residence, Luis Villazon



Are my fans too loud?

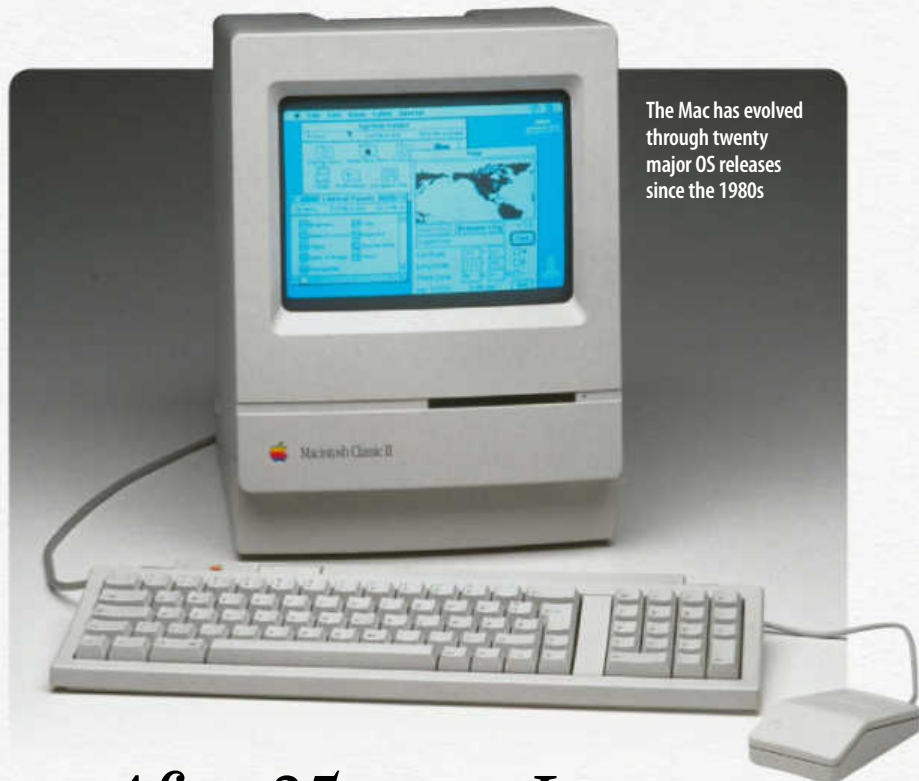
Q There are times when my Late 2011 15-inch MacBook Pro's fans seem to run at full speed with only iPhoto, Photoshop and a web browser open. The Mac has a very slim case on it, which does not interfere with the vents at the back. Is this a known issue?

Martin Williams

A Photoshop can be demanding on the graphics processor if you are applying complex filters to a batch of images. Laptops always struggle more with cooling than desktops, because there's much less room for airflow inside. Your MacBook Pro has two fans on its motherboard, and it's possible that one of them has failed, which would make the remaining one work overtime. Even if both are working, dust gradually accumulates on the fan blades and on the motherboard itself, reducing cooling efficiency.

Search ifixit.com for how to open up your Mac. If a fan is faulty, you can often find replacements on eBay. Most likely, all you need to do is give the inside a good blow to get rid of the worst of the dust and then put the case back on. Don't use a vacuum cleaner as these can generate static electricity that can harm the electronics. Compressed air cans are safer.

TechTool Pro (micromat.com) can test whether your Mac's fans are still operational.



The Mac has evolved through twenty major OS releases since the 1980s

After 35 years I can go no further with OS X

Q I am a MacFormat subscriber and have used Apple kit since the late 1970s. Over a long period I have built up my personal workflows and habits around Apple's excellent operating systems up to version 10.6.8. My productivity depends on two features: being able to open folders in new windows, and having the windows that were open prior to shut down reopen on startup to resume a workflow.

OS X 10.7 onwards no longer has these features. Opening folders in new windows is possible by holding **⌘** but I want to be able to replicate the older OS behaviour. I refuse to upgrade to newer OS versions unless I absolutely have to. Is there a way of configuring

the latest OS to work in these ways? If not, are there any third-party tools that would achieve the same objective?

Minoo Patel

A When you choose **Apple > Shut Down**, the windows that are open are saved as long as 'Reopen windows when logging back in' is ticked. If you need to preserve your existing work session with even more fidelity, you can just sleep your Mac, which uses very little power nowadays.

Regarding Finder, the way to reinstate the behaviour you want is to hide the toolbar and switch to icon or list view. Finder windows will then work more like they did in the classic OS, opening a new window when you double-click a folder. However, this also forfeits modern features such as the sidebar.

Pump up the treble

Q To compensate for hearing damage, I need to boost the treble in the left channel when listening over headphones. Do you know of a way to do this?

Gareth Gilks

A The Equalizer in iTunes is fairly simple, and third-party apps that extend to all system audio apply the same EQ settings to both stereo channels. Very high-end software might enable this, but I think you're better off with a hardware graphic equaliser. I'm not enough of an audiophile to recommend models, but a 15-band stereo graphic equaliser is around £75. Not cheap and the units are relatively bulky, but it's really no more than decent headphones, and might be a worthwhile investment in your case.



Boom 2 is an inexpensive equaliser, but it can't adjust left and right channels independently.

If this isn't a virus, then what is it?

Q I have been a reader of MacFormat for many years. Ironically, I have just had a request for renewal which I have not been able to fulfil due to a pop-up message. I've always understood that Macs don't have viruses, and I've seen no articles suggesting what to do if you actually get one. My MacBook Pro running Yosemite now seems riddled with problems: I see many pop-ups, to the point that it's virtually impossible to order online due to ads promoting software (supposedly for OS X) to clean the computer. Every so often I'm told to upgrade Flash (I haven't). Do you recommend any software to help with any of these problems?

David Hurn

A No. Downloading utilities to clean your Mac is actually a common way to acquire this stuff in the first place. It's called adware, and it's an example of a Potentially Unwanted Program (PUP). It's important to understand that these aren't viruses or worms, because they aren't self-replicating. To install them you will have had to click a download link on a web page and then click OK on the dialog that pops up to warn that you're installing software from the web. Figuring out what is safe and what isn't



Get all your apps from the Mac App Store till you get the hang of the wilder parts of the internet.

on the web is a bit like figuring out which are the safe streets to walk down late at night in a big city. It's a hard thing to teach and a lot of it comes down to having a 'spidey sense' for things that look suspect.

My dad, for example, is terrible at this and will be wildly paranoid about things that are quite safe, yet blithely end up downloading all sorts of stuff that takes me ages to get rid of. If your web fu isn't powerful enough to keep you out of trouble, the safest thing is to only download apps from the Mac App Store. Back this up by ensuring 'Allow apps downloaded from' in Security & Privacy preferences is not set to Anywhere.

Getting rid of the adware is just a question of dragging the appropriate folders into the Trash and resetting the search engine and Homepage settings in Safari's preferences. There's a good list of folders that common adware uses at <http://apple.co/1TzOD4V>.

Tracking through the wilderness

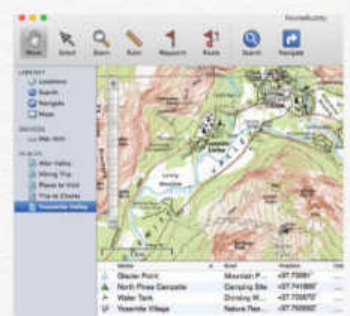
Q I am into photography and, with my Land Rover, can get to places where there is no internet access. I'd like to study my surroundings and sort out the next day's itinerary on my MacBook. Are there mapping apps for the Mac that will work offline? I have a couple of satellite receivers that I used to use with Microsoft AutoRoute.

Conrad Dobson

A Offline mapping is one of those weird backwaters of software development.

There are very few apps on the Mac App Store that offer this feature and even fewer with good reviews. I've been fiddling around with RouteBuddy (routebuddy.com), which has an annoyingly similar icon to Safari's but seems like it will do what you want. There are maps available for the UK, France and USA and they are proper digital versions

of reputable maps by Ordnance Survey and Harvey, in all of the standard scales. There is also a satellite image overlay, and you can open your route in Google Earth as well. There's a companion app for iOS so you can plan a route on the MacBook and then send it via Wi-Fi to your iPhone. The Mac app isn't cheap though, because you have to pay £40 for the app and then buy all the maps separately. The OS Landranger series are £6.99 each.



When you're off the beaten track, you can take your maps offline with RouteBuddy.

This still isn't a virus

Q In issue 286 you had a letter from Anne Garvey about MacKeeper. I downloaded LibreOffice onto my new iMac, and MacKeeper somehow managed to download itself with it. Next I time opened Safari, a new search window opened up instead of my homepage, so I referred to your answer. I deleted MacKeeper but couldn't find the helper folder you mentioned. However, in Safari's Security preferences I found a plug-in called 'trovi' had been added. I blocked the plugin and restarted Safari. It then opened to my homepage, as it should. I have now removed the plugin.

Peter Sims

A MacKeeper is a utility normally classed as a Potentially Unwanted Program (PUP), but for 'potentially' you can read 'definitely'. PUPs are like payday loans: not actually illegal, but the world would be a better place without

them. You won't see the helper folder, unless you've run MacKeeper, which isn't likely since it doesn't do anything you want.

Trovi Search is another, unrelated PUP that hijacks your homepage. Annoying parasites are sometimes bundled with free software to make money for the developer. More often you'll get them by accidentally clicking on a fake download button. The button at libreoffice.org is safe, and so is the Mac App Store, but sites offering lots of useful utilities are notorious for this.



Beware of big download buttons on websites, which are often there – alongside genuine buttons – to trick you into installing adware.

Photos won't let me sort photos

Q Photos sucks. It seems that iPhoto wasn't too bad after all; it had its faults, but at least I could sort my photos how I wanted them. In my case I have thousands of photos grouped into albums, these may have been taken over long periods of time, so the date I took the picture is irrelevant.

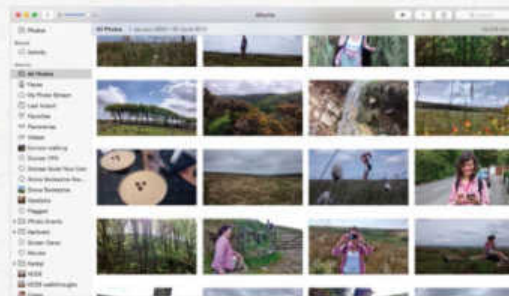
With Photos, I can't do this. Images have to be sorted by date, which is no good to me. There is a workaround but it involves dragging all photos into the order I want them. I don't get why there's no 'sort by title' option. Am I missing something here?

Steve Rodgers

A No, you're quite right that it's not there. Sorting options, including by title, will be added to Photos in the version bundled with El Capitan later this year. For now, you could try to fight the app's current limitations, perhaps by creating separate Smart Albums for each

letter of the alphabet and matching all photos whose title begins with a particular letter or phrase.

I agree that it can be very annoying when a feature you used gets taken away. In this particular case, though, it's missing because Apple has rebuilt its photo library software from scratch, and the feature will return in a few months time – that is, as long as you are willing and able to upgrade to a new version of OS X.



Photos currently has much less flexibility than iPhoto for arranging pictures within albums. You'll need OS X 10.11 to regain some sorting options.

Tech Talk

by Luis Villazon



➤ I'm not tempted by the Apple Watch. I'm waiting for it either to get a killer native app, or for it to replace my phone entirely. In the meantime, I'd like Apple to make a desk. Instead of selling me a tiny screen that I wear on my wrist, make me a ginormous one that is recessed into a table. I want something perhaps half as big again as the Thunderbolt Display, and make it a touchscreen.

On the left there will be a little slot I can feed A4 sheets into, whereupon both sides will be scanned and the paper is shredded. I'll drag the digital copies around the screen, with my

I want Apple to make me a desk, so I can pretend to be Judi Dench

photos, web pages and emails, so I can pretend to be Judi Dench in Skyfall. In other words, I want the desktop computer to stop being a metaphor and start actually being a desktop. Naturally it would need to have super-scratchproof glass, because I want to be able to put my coffee cup on it. In fact, I want it to be able to detect my coffee cup and move pages out of the way. And maybe keep track of the cup's temperature too in the Pro version.

Obviously, this would be fabulously expensive, but I'd justify it as a business expense, based on all the SOS questions I'd get about it from all of you. Because there seems to be a direct correlation between how big the screen is on an Apple device, and how much mail I get about it. Which might be why I'm still waiting for my first reader's question about the Apple Watch.

Luis Villazon also has an idea for a virtual reality watch, tentatively called the Oculus Wrist.

Keeping filenames in Photos

Q For a long time now I have used iPhoto very happily, and have accessed and recorded my pictures by using their titles (such as P10345) as they come off my cameras. I have been exploring Photos, and find that it displays my pictures without titles. When I choose View > Metadata > Titles, the rows of pictures move apart to allow space for titles to be shown, but no titles appear.

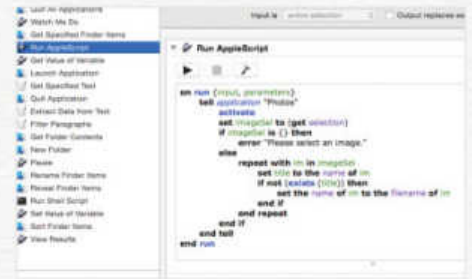
Further exploration revealed that the titles were actually contained in the info (Window > Info) for each picture, and I could copy those titles and paste them below the corresponding pictures. Fine, but do I have to go through thousands of

pictures individually copying and pasting each title into its 'correct' place?

Ivor M Cleves

A The 'titles' that come from the camera are actually the filenames of each photo as it is stored on the memory card. If you didn't type anything into the title field yourself, iPhoto would display the filename instead. This can look ugly and often doesn't help to organise your images, so Photos just shows a blank instead.

To remedy this you need an AppleScript to iterate through all the images in your library and copy the filename over to the title, if the title is currently blank. There's a simple script to do this at discussions.apple.com/docs/DOC-8414 (back up



You can hack some of the old iPhoto behaviour into Photos with a combination of Automator and AppleScript.

your library first). Make a Service in Automator and paste the script into a Run AppleScript action. Once saved, you can run the service from Photos > Services whenever you import new photos.

Sharing InDesign files with people

Q I have a Mac Pro running OS X 10.9.5 and InDesign CS6 version 8.1. My client has upgraded to Yosemite and they are now unable to open my files. I've found a way round this problem by saving the file as IDML, then opening the IDML file and saving it as an InDesign file which they can open, but this is time consuming when sending a large number of files.

Peter Butler

A Is your client running the same version of InDesign as you? Newer versions can open files created on an older version of InDesign but if you're going the other way, you normally need to export to InDesign Markup Language (IDML) format so that the older version can read it. If you are both on the same version then your files have probably become corrupted in some way. Drag the contents of ~/Library/Preferences/Adobe InDesign to trash and try saving as normal again.



Is someone else using my Wi-Fi?

Q My internet connection kept dropping and our provider suggested that the modem was the problem. It sent a new one but now I get an occasional message that says another device is using my Wi-Fi link, and I cannot connect. After about 15 minutes it's fine. My iPad, MacBook Pro, and a Time Capsule connect over Wi-Fi.

The provider advised rebooting the modem, but this didn't fix things. Then it suggested "rename your IP address" but that confused me. The problem mainly occurs when I close the lid on my MacBook Pro; it's when I reopen it that the problem seems to occur. **Peter Durrant**

A It's possible two devices on your network are trying to use the same manually-configured (static) IP address. Your situation can also occur when the pool of IP addresses, assigned dynamically by your router using DHCP, overlaps with the static address of just one device, or when two devices act as DHCP servers with overlapping address ranges. Next time you see the message, open Terminal and type `sudo ipconfig`



For best results, set every device on your network to use DHCP so it's dynamically given an address.

`set en1 BOOTP`, press `⌘`, enter your password. Next, type `sudo ipconfig set en1 DHCP`, press `⌘` and enter your password again.

This should tell your router to give you a new IP address. If your internet connection suddenly works, the issue was a conflicting address; set every device to use DHCP or manually give each a unique static address. DHCP is simpler if you add devices later.

Refer to your modem's manual to set it to issue IP addresses using DHCP. Next, in OS X's Network preferences, select Wi-Fi, click Advanced, then TCP/IP and choose DHCP. In iOS, tap Settings > Wi-Fi, tap the 'i' next to your network name and tap DHCP.

Sleeping is fatal for my iMac

Q Since upgrading my iMac from Mavericks to 10.10.3, it crashes every time it sleeps. It's difficult to wake, needing several goes with the power button, and I get the kernel panic message. I enabled 'Prevent computer from sleeping automatically when the display is off' in System Preferences and this has (temporarily?) fixed the problem. Any advice on a proper fix for this?

Ken Shifrin

A The crash is probably happening when the iMac wakes up, rather than when it goes to sleep. If you get as far as a cursor on a black screen, this may be caused by an automatic update that hasn't finished. Press the power button for 10 seconds, then restart with $\text{⌘}+\text{⌘}+\text{⌘}$ held down until you see the Apple logo. Once the cursor appears, enter your username's first letter (if you have more than one account), type your password blind and hit $\text{⌘}+\text{⌘}$. This should get you past the login screen, so the update can complete.



If your Mac crashes when it wakes from sleep, it's better to find out why than turn off sleep mode.

If you don't even see the cursor, it's more likely a RAM fault. I've seen three Macs refuse to wake from sleep since upgrading to Yosemite, and all were restored to life with new RAM. Use the Advisor tool at <http://uk.crucial.com> to find the right kind. Rather than play musical chairs with the old modules, I advise replacing all of them.

Photos broke my image library

Q When I ran Photos for the first time on my MacBook Air, it ran through some process of importing pictures from iPhoto. I can see thumbnails of them in my library, but if I try to view one larger, I just get a grey triangle with an exclamation mark in it. I can still view all of my pictures in iPhoto. What has gone wrong?

Alan Stovold

A This used to happen occasionally in iPhoto as well. Both the Photos and iPhoto libraries are essentially databases that store the original images, edited versions and thumbnails in different folders. It's possible to lose the connection between the thumbnail and the original.

Open Photos > Preferences and check the location of your library. It's normally in \sim /Pictures. $\text{⌘}+\text{⌘}$ -click that folder and click Get Info. Check that you have read and write

permissions for it, and do the same for the library file as well. If anything looks amiss there, open Disk Utility, select your startup disk, click First Aid, then Repair Permissions.

If your permissions are in order, then the broken link between the thumbnails and the images must lie in the Photos library. Hold $\text{⌘}+\text{⌘}$ as you open Photos. This will offer to repair the library, which will recreate all the support files and database entries for each image. If even this doesn't work, close Photos, delete its library file, reopen Photos and reimport everything from iPhoto again.



Tucked away in Photos is an option to repair its library, which can fix broken connections to images.

Self Service

take a shortcut

Five weird keyboard shortcuts that doctors hate. Number four will blow your mind!

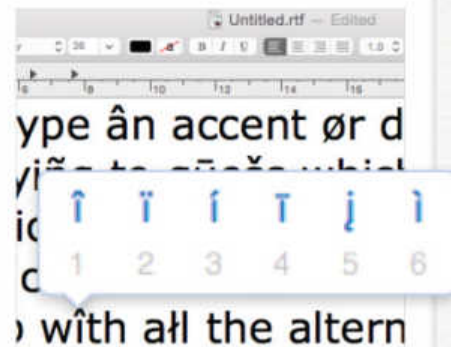
1 Add emoji to your tweets and emails quickly by holding $\text{⌘}+\text{⌘}$ and pressing the spacebar. This displays a panel with icons divided into categories. There are useful bullet points and greek symbols there too. You can drag this panel away from the window you're working in to keep it open (in the current app only), giving you even quicker access to unusual characters when you need to type many.

2 You can invert the colours on the screen with $\text{⌘}+\text{⌘}+\text{⌘}+\text{⌘}$. This colour scheme can be more restful at night, when ambient light is lower. You need to enable this shortcut in System Preferences > Keyboard > Shortcuts > Accessibility > Invert Colors first though.

3 Instead of manually dragging files to the trash, or $\text{⌘}+\text{⌘}$ -clicking and selecting Move to Trash, you can simply select files and hit $\text{⌘}+\text{⌘}$ to trash them.

4 Need to type an accent or another diacritical mark? Don't bother trying to guess which modifier key combination will do the trick. Instead, just hold down whichever letter needs the mark and a pop-up with all the alternatives will appear.

5 If your keyboard lacks a ⌘ (Delete) key, press $\text{⌘}+\text{⌘}$ deletes characters to the right of the insertion point.



All the diacritical marks you need are just a long key press away at any moment.

GET IN TOUCH

If you have a technical query with your iOS device that you need answering, please email us at sos@macformat.com

iOSSOS

Christian Hall fixes your iPad and iPhone problems



Why doesn't every app vibrate?

Q When my iPhone 5 is set to silent mode, I still get vibrate notifications for some apps, such as Facebook, but most of my other apps don't alert me at all. I have checked that I have sounds enabled in each app's notifications settings but it doesn't make any difference.

Clara Dacey

A Indeed it doesn't. You can only get vibration notifications if the app is written to allow them. This is a design decision for an app's developers, and the only way to get it changed is to petition them and ask for the feature to be added in a future update. This might not work though because I think that Apple's App Store criteria discourages apps that unnecessarily bombard you with notifications, particularly when you have muted your phone.

Can I forward text messages?

Q I'm trying to set my iPhone to forward text messages to my email. I thought this was possible, but I've had no success. Text Message Forwarding to my iPad and iMac is on, but messages never appear.

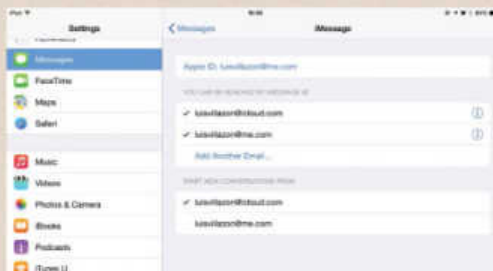
Caroline Hatton

A Text Message Forwarding doesn't forward messages to your email account per se, but to the Messages

app on other devices signed into the same iCloud account as your iPhone. It sounds as if your devices aren't properly paired for this.

When you turn on the switch next to a device's name in Settings > Messages > Text Message Forwarding on your iPhone, a confirmation code is sent to that device, much like when pairing Bluetooth devices. This only happens if you have enabled the email address associated with your Apple ID as one of the ways you can be reached.

To fix this, first swipe all the devices off in the Text Message Forwarding settings on your iPhone. Next, go to Settings > Messages > Send & Receive and ensure the email address associated with your Apple ID is added to the list of ways you can be reached and has a tick next to it. Now you can re-enable message forwarding to your other devices. Provided they are switched on and signed into iCloud, a dialog with a confirmation code, and also a dialog on your phone where you can enter this code to complete the pairing.



Messages needs your Apple ID's associated email address to set up text message forwarding. You can remove it after pairing.

Who gave authorisation?

Q iTunes purchases play on my iPad and iPhone, but iTunes on my Mac tells me I must first authorise the computer. It then says I must deauthorise a computer to be within the limit of five, but my account says just one is authorised.

Mark Venn

A If you have bought music from multiple iTunes accounts, each one will need to be authorised for

that computer. Let's assume that isn't the case here and start by deauthorising all computers from the store account you're using (Account > View Account > Deauthorise All). Log in to your Mac as an administrator, open iTunes and choose Account > Authorize This Computer. If that fails, delete the folder containing iTunes' authorisation lists. In Finder, choose Go > Go to Folder and enter /Users/Shared/SC Info. Trash this folder, restart your Mac and you should be able to authorise the Mac.

Postcards from a Windows PC

Q What's the best way to move photos from my Windows PC to my iPad? I have about 600 pictures that I'd like to transfer. Is it better to send them to my iMac and sync from there, or can it be done directly?

John Greeves

A Provided your iPad is running at least iOS 8.3 and you've turned on iCloud Photo Library (in Settings > Photos & Camera), you can transfer your photos to the iPad by signing in to icloud.com on your PC and clicking Photos then Upload at the top of the page. Since you have so many photos, it might be reassuring to upload photos in small batches in case anything goes wrong part way through. The photos will automatically appear in the Photos app on your iPad.

Missed an issue?

Get it on the App Store!

Looking for a back issue? Look no further. Search for 'MacFormat' on the App Store to get our award-winning app for iPad, iPhone and iPod touch! There are lots of issues of *MacFormat* inside it, ready to be downloaded immediately. And remember, from issue 250, *MacFormat* became a fully interactive iPad app!



Issue 289
August 2015

The best FREE apps for OS X revealed • iOS 9 & El Capitan preview • Say hello to Apple Music • Top MacBook accessories • Get fit with Apple Watch



Issue 288
July 2015

Protect your files forever • 99 amazing Apple Watch tips • Get set for HomeKit • New MacBook reviewed • Wireless headphones and much more...



Issue 287
June 2015

Power up OS X Yosemite • Apple Watch hands-on • Web-building apps for Mac • Apple Car – Apple's next big thing? • Master Photos for OS X today!

HOW DO I GET MINE?

Download back issues onto your iOS device – get our award-winning app at bit.ly/macformatipad

To order back issues of the print magazine, go to http://goo.gl/B7aFdk or phone **+44 (0)844 848 2852** and we'll post them out to you

To become a subscriber so you never miss another issue in the future, go to page 42.



Get into 3D printing

Dan Oliver talks you through the tech, reveals the best tools, and shows you how easy it is to make your first print



Technologies often simmer under the surface before emerging into the mainstream. And in the case of 3D printing, it's taken over 30 years to

finally come to the boil.

Held back by high costs and restrictive patents, 3D printing has been waiting patiently in the wings for its moment in the spotlight, but if leading tech experts and analysts are right, that moment is now upon us. And it's time for 3D printing to take centre stage, not just in specialist areas, but at home too.

A CSC study published in March 2015, and featured in Forbes Magazine, predicted that by 2020 the global 3D print industry will be worth

\$8.6 billion (<http://bit.ly/3dprintindustry>). And with prices expected to drop by 50% in the next five years, and speeds to get up to 400% faster it's claimed, there's never been a keener interest in 3D printing (<http://bit.ly/3dprintfacts>).

Now, with the likes of Canon, Dell, Adobe, HP, and Microsoft creating their own apps and hardware, there's a burgeoning interest in 3D printing that goes beyond its hitherto niche audience; it's about to go mainstream, and there's never been a better time for Mac users to get involved.

In this feature we're going to take a look at the fascinating story behind 3D printing, uncover some of the best printers and tools for Mac users, walk you through your very first print, and reveal why so many people are catching the 3D printing bug!

The 3D printing revolution

From research at Bath University, to a community at loggerheads over open source, 3D printing has a fascinating story to tell...



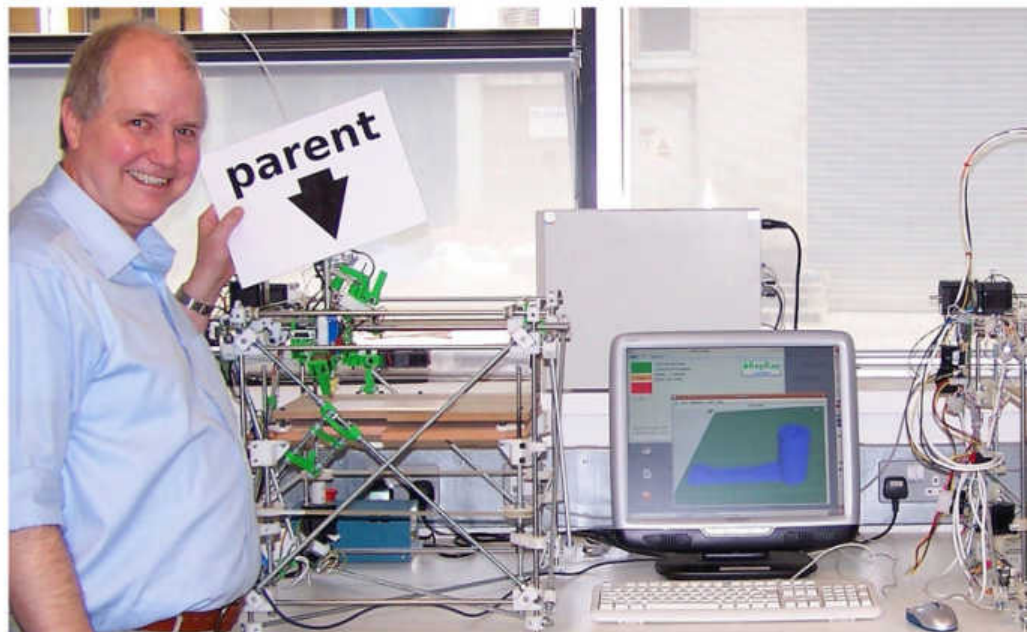
When Chuck Hall developed the principles of 3D printing back in 1984, *Ghostbusters* was the world's favourite movie, *Do They Know It's Christmas?* topped the festive hit parade, and Apple was

launching its first Macintosh computer.

Fast forward to 2015, and we're all familiar with the meteoric rise of the mighty Macintosh, but 3D printing is still a relative unknown. Due to high costs and a number of patents that only expired within the last decade, 3D printing was the preserve of a handful of people in the manufacturing industry, but in 2005 a university lecturer started a quiet revolution.

"Ever since childhood I have been interested in the idea of making useful self-replicating machines. When 3D printing came along I realised that for the first time humanity had a manufacturing technology that stood a reasonable chance of copying itself, and so I started RepRap", recalls Dr. Adrian Bowyer, founder of the RepRap Project. "I made RepRap as an academic research project at Bath University. I received the smallest research grant of my entire 40-year academic career, £20,000, which was less than the cost of a cheap 3D printer at the time".

As the RepRap Project grew, and the team developed the precursor to many of today's desktop printers, it brought with it an open



source ethos, with all printer designs being made available under the GNU General Public License. This ethos was core to 3D printing's early success.

"We believe this community was essentially born from – and is still driven by – a desire to change the world for the better", says Diogo Quental, CEO of Beeverycreative, a leading 3D printer maker. "This is something anyone can see for themselves when they visit a 3D printing show, where the atmosphere is far more collaborative than it is competitive".

A period of rapid growth

This collaborative atmosphere kickstarted a period of rapid growth in 3D printer development. As other printer makers built on the technology being developed at Bath University, and as the work of the RepRap Project emanated beyond the UK, a host of new 3D printer manufacturers emerged.

One of these companies – one that's both inspired and divided the 3D print community – is MakerBot. As the 3D printing movement began to coalesce around open source ideals and maker enthusiasm, MakerBot emerged as an early beneficiary, positioning itself as

the poster-child of affordable 3D printing.

"3D printing has been around for close to 30 years, but up until 2009, the industry typically offered large mainframe-sized 3D printers that cost hundreds of thousands of dollars", says Andreas Langfeld, general manager at MakerBot Europe. "MakerBot changed that equation by introducing desktop 3D printers that are smaller and more affordable".

Pre-internet, it's hard to imagine how 3D printing could have moved beyond its niche manufacturing roots, and it's no surprise then that MakerBot, the world's best-known 3D print brand, is also the company behind the world's biggest 3D print community, thingiverse.com.

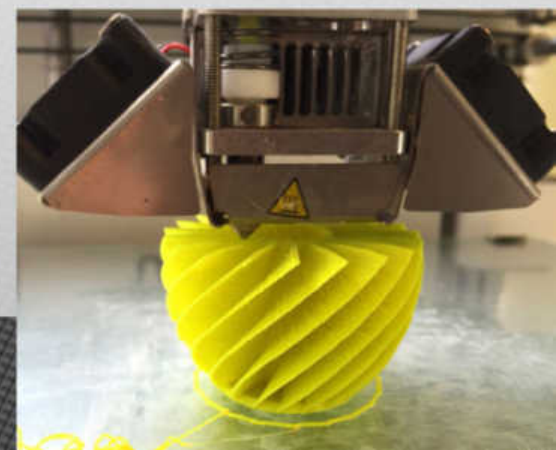
Launched in 2008, Thingiverse plays host to artists, designers, architects, inventors, and anyone else that wants to share and discuss 3D prints. Developing Thingiverse was an incredibly smart play on the part of MakerBot, and by September 2012 the site hit 20,000 model



Spiral vase

Our first featured model is a vase by Martin Žampach. This is a great example of a print that's well designed for FDM printers – with no nasty overhangs – and it's also functional. And because it's hollow, it prints quickly (though speed is relative with 3D prints, and you're still looking at a number of hours). You can grab it here: thingiverse.com/thing:481259

The spiral vase has a twisted conical fan shape. It's a great design for seeing how a 3D printer layers up models.

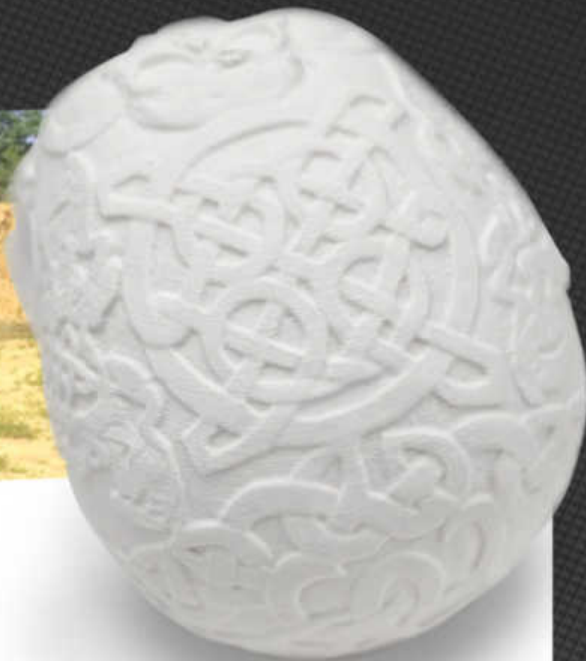




The first time a RepRap machine printed itself. Adrian Bowyer (left) and Vik Olliver (who made the first copy) is on the right. The child machine made its first successful grandchild part on 29 May 2008 at Bath University.



In 2013, American Cody Wilson became 3D printing's poster boy for all the wrong reasons. He made a fully working plastic gun and showed the world how to do it.



Some 3D prints are criticised for being a bit too rough. But as this skull pattern shows, highly intricate designs that are relatively smooth are possible to achieve at home.

uploads, and helped secure boss Bre Pettis a spot on Wired magazine's cover, where he proclaimed that his machine would change the world.

Community backlash

Sadly, as with most technologies, it was almost inevitable that this rapid growth would cause a fissure in the industry, and in the same month MakerBot made the cover of Wired, it turned its back on open source: "For the Replicator 2, we will not share the way the physical machine is designed or our GUI", Pettis explained at the launch of its newest printer, "because we don't think carbon-copy cloning is acceptable and carbon-copy clones undermine our ability to pay people to do development".

The terms on the Thingiverse site changed to give MakerBot extensive rights to use, sell, reproduce and licence uploads to the site (you can find a full overview at <http://bit.ly/thingiverserules>). MakerBot's community, many of whom had contributed to the company's early success, were not happy. And when Stratysys – the company that held the patent on FDM technology for 20

years – bought MakerBot in 2013, many believed the honeymoon was over.

"Some of you may think that I am rather lax in my pursuit of those people who would appropriate RepRap technology and close it off, thereby breaking the terms of the GPL", Adrian Bowyer wrote in a blog post at the time. "The reason that I am lax – and I am – is because I don't care about those people. I don't care about them because I know that by closing off the path that they have chosen, they have turned it into a reproductive cul de sac; they have made their machine sterile".

Fired into the mainstream

Bowyer may have had a point, since MakerBot – which has undoubtedly done more than any other brand to popularise 3D printing – began to face increasingly stiff competition as new printer makers, such as Ultimaker, MakerGear, Lulzbot, Beeverycreative and many more, continued to build on the RepRap Project's amazing work. But despite all of this, 3D printing was still on the periphery. Then someone printed a gun!

"For nearly three hundred years anyone has been able to own a lathe. Worldwide, millions of private individuals do, including me", says RepRap's Bowyer. "And lathes are really good at making guns – much better than 3D printers – and they always have been. No one has worried about this. Ever!"

Like Bowyer, many 3D print enthusiasts were angered by the story, which portrayed 3D printing in a negative way, but it came at a time when guns, and specifically gun control, were grabbing headlines around the world. The story broke in March 2013, and just



T. rex skull

This T. rex skull from MakerBot is brilliant fun, and is a great example of something that you can print with your children. Printing in two parts, you can fit the skull together so the jaws move, and by simply mixing a bit of dark paint and water – as long as you're printing with a white filament – you can apply a wash, which will make it look pretty authentic. Grab it here: thingiverse.com/thing:373367

"LATHES ARE REALLY GOOD AT MAKING GUNS – MUCH BETTER THAN 3D PRINTERS"

Affordable 3D printers

It still costs a lot, but you'd do well to avoid those printers costing around £500 for now

Ultimaker 2

£1,749 Manufacturer Ultimaker, ultimaker.com Requirements OS X 10.7 or higher (for Cura software)

Despite sitting at the more expensive end of the home printer market, the Ultimaker 2 has won numerous plaudits since it was released at the end of 2013. It has a 20-micron layer resolution, can print at speeds from 30mm/s to 300mm/s, and has a print area of 223x223x205mm. The Ultimaker 2 also has a fantastic companion app in Cura, which is one

of the easiest 3D slicer apps currently available. Calibrating the printer is a simple process, and prints are stored on, and read from, a removable SD card.

OUR VERDICT: The Ultimaker 2 is recommended for anyone that's happy to pay a bit more for a home 3D printer.



MakerBot Replicator Mini

£1,198 Manufacturer MakerBot, makerbot.com Requirements OS X 10.7 or higher

The MakerBot Replicator Mini has plenty to attract newcomers to 3D printing. First up, the Replicator definitely looks the part, and there's an onboard camera too, so you can remotely check your prints (though it's resolution is just 320x240 pixels). And you can even send files to your printer via Wi-Fi. However, its specs aren't up there with some other printers, with

a 200-micron layer resolution (and, as it's the Mini version, a smaller print area of 100x100x120mm). MakerBot Desktop and Thingiverse.com are a cinch to use, though.

OUR VERDICT: The full-size Replicator costs £2,638, so the Mini is far more affordable if you want a MakerBot.



Witbox

£1,200 Manufacturer bq, bq.com Requirements OS X 10.7 or higher (for Cura software)

Compared to the Ultimaker and Replicator this a cheaper printer, but you wouldn't think so to look at the specs. With layers of up to 50 microns in thickness, a print area of 210x297x200mm, and a fully enclosed design featuring an interlocking door, it's hard not to be impressed by the Witbox. Rather than design its own software, the Witbox is fully

compatible with Ultimaker's Cura app, and bq recommends Cura for use with the Witbox. It also has a filament feed pipe built into the printer, unlike the Ultimaker 2.

OUR VERDICT: If you're looking for a printer that has great features, and won't break the bank, this could be it.



Beethefirst

£1,104 Manufacturer Beeverycreative, beeverycreative.com Requirements OS X 10.8 or higher

We're not sure how the name for this printer came about, but from an aesthetic perspective, there's a lot to like about the Beethefirst. Sleek, streamlined and very portable, this is a printer that could fit into an office space without standing out. However, to achieve this the printer uses proprietary, smaller spools, and also has a print area of

190x135x125mm. Like the Witbox, you're looking at a layers up to 50 microns, and you also get custom-developed software called Beesoft to slice and edit your prints.

OUR VERDICT: If you're looking for a 3D printer with a bit more style, the Beethefirst could be the one for you.



How it works

Here we shed a bit more light on the dark art of printing in 3D



Depending on what you're producing, and the amount you're willing to spend on a 3D printer, there are a variety of ways that you can print a 3D model at home. Some techniques involve lasers cutting through material, some fire UV beams at resin, but the technique used in the majority of home 3D printers is called FDM (fused deposition modelling) – liquid plastic basically.

Simply put, FDM involves pushing heated filament (plastic, in most cases) through a tiny nozzle, building up thin layers, or 'slices', as it goes along. The more detail you want in your model, the longer it takes, as the printer needs to lay down more layers, which are measured in microns. In most cases the filament used for FDM printers is either PLA or ABS, which are categorised as thermoplastics; this means they can be easily be heated to a soft state, and then cooled to a solid. And you can buy these filaments on reels from companies such as colorFabb (colorfabb.com) and Fashberdashery (faberdashery.co.uk).

FDM INVOLVES PUSHING HEATED FILAMENT THROUGH A TINY NOZZLE

ABS requires a heated bed to print on to, otherwise it tends to curl, but it has a better strength and flexibility than PLA. However, PLA can provide more detail in prints, warps less, comes in funkier colours, and gives off less noticeable fumes. Also, it's plant-based, whilst ABS is a petroleum-based plastic.

So there's quite a lot to consider before you get started, but there's one common element across all 3D printing: the model. You can create models in a CAD or 3D app (such as AutoCAD 360 or 3ds Max). And if you want to have a go at making 3D models without having to learn a pro app, Autodesk has an amazing suite of free, 3D tools available at 123dapp.com. But

thousands of ready-made models can also be found via online repositories such as Thingiverse, Shapeways, i.materialise, Sketchfab and YouMagine.

If you do choose to design your own model, you will need to ensure it's exported as a 3D printer-friendly model format, which will either

be an STL or an OBJ file (all the printers we've featured support these formats). But there's one last thing you need to do.

Because 3D printers work in slightly different ways, and have their own idiosyncrasies, you need to convert your OBJ or STL file via an app called a 'slicer' (many printers come with their own, such as Ultimaker's Cura app). What this app does is take your model, and – based on the parameters you set – create a file that transforms your model into a series of layers. This is called G-code. And G-code makes the magic happen!

3D PRINTED CHARACTER



Marvin

Marvin, as he's known within the 3D printing community, is the character that's come to symbolise the 3D print movement thus far. You'll find most 3D print enthusiasts with a few Marvins hanging from various items, and, thanks to his size, he's a great test and sample print. Try it: youmagine.com/designs/3d-hubs-marvin-key-chain-4

What's the deal with files?

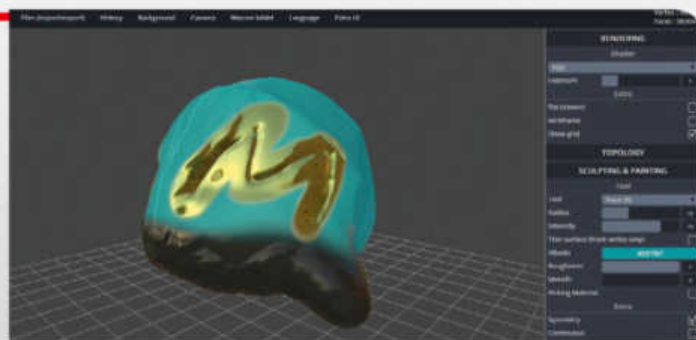
One of the things that confuses many people about 3D printing is file formats. With no one-size-fits-all format, the question of which to use is one that every newcomer will ask.

"Depending on the printed output type (single colour, full colour, plastic, resin etc) there can be a preference for the model input format", explains Richard Curtis, Principal Solutions Consultant at Adobe. "If it's a single colour then it's most likely an STL file, or for full

colour, it could be an OBJ or a VRML file".

When making a file you must also be mindful that it's going to become a physical object, governed by its geometry. If you create your own files, it's rarely a question of just clicking 'print'.

"All 3D objects need to be prepared for printing – a process typically referred to as model fixing", Curtis says. "Model fixing is a quality inspection process, intended to ensure objects are water tight and the object



There are a number of different 3D modelling tools for the Mac, many of which are free, such as Blender, SketchUp and SculptGL which is the one shown here.

geometry is suitable for 3D printing. Some common preparations and corrections include repairing holes, removing floating polygons,

correcting polygons facing the wrong way or simple tasks such as creating temporary printing supports for some nasty over-hanging elements".

Subscribe to MacFormat wherever you live!

- ✓ Save up to 47% off the cover price
- ✓ Never miss an issue again
- ✓ Every issue delivered to your door
- ✓ Read your copy days before it's available in the shops



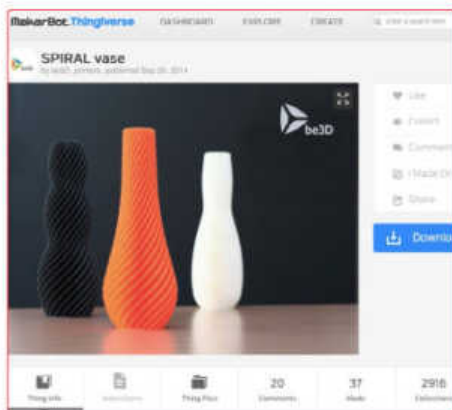
Subscribe today and save money!

North America	Europe	The rest of the world
From \$32.50 every three months	£83.99 per year	£89.99 per year
imsnews.com/mfc-a061	myfavouritemagazines.co.uk/mac-overseas	

Or try our interactive iPad edition; see p93!

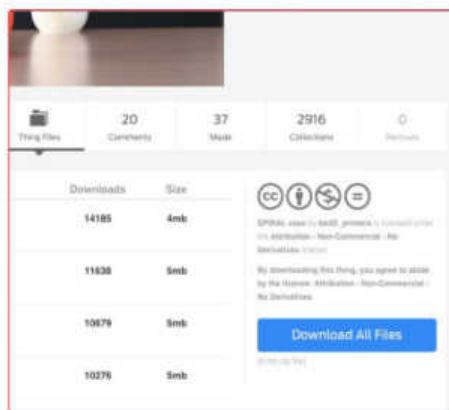
Making a 3D print

Here's how you print your first 3D model...



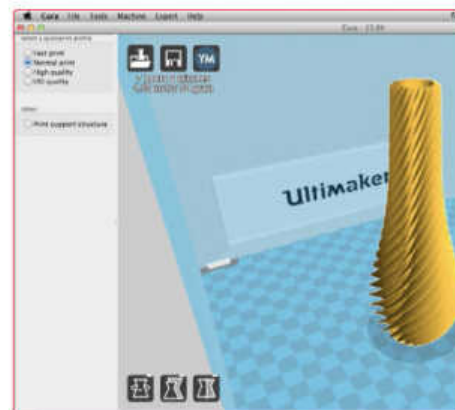
1 Find a model

We've been using the Ultimaker 2 and having won multiple awards, it's a great machine for newcomers. However, despite Ultimaker's own model repository youmagine.com being a great place to find free models, MakerBot's thingiverse.com has a much broader selection. We've chosen this spiral vase (thingiverse.com/thing:481259), and we'll be using colorFabb's fluorescent green filament (colorfabb.com/fluorescent-green).



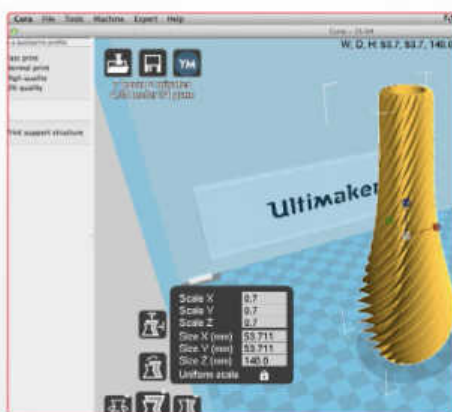
2 Download the file

To download 3D files from the Thingiverse website you need to first click the icon titled Thing Files that's shown on each model's page, and then select Download All Files. Once you've got the files on your Mac, you need to open your slicer software of choice (for us it'll be Ultimaker's excellent Cura app) and open the STL file you downloaded from thingiverse.com. Typically, 3D print files are actually quite small at just a few megabytes.



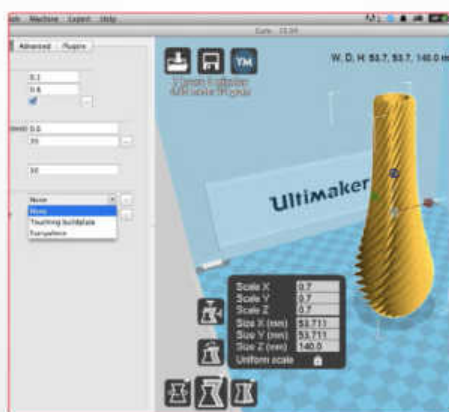
3 Open your STL file

Now you need to open your STL file in your slicer app (as we mentioned, we're using Cura). You will now see your model, rendered virtually, within a three-dimensional canvas. You can zoom in on your model, change scale, or pan around it to check detail. And our default view enables us to choose preselected settings for four quality levels. Notice that you'll get an accurate time for printing the model at the top of Cura's interface.



4 Check scale

The first thing we're going to do is reduce the scale a little. An 11-hour print is a bit much for our first outing, so we're going to scale things down to 70% – still a seven-hour print! To do this you first click on your model, and then select the 'Scale' icon at the bottom of the Cura interface. In the window that pops up, type 0.7 into one of the fields, and it will automatically copy into the others, ensuring that your model's ratio is maintained.



5 Fine-tune settings

Now let's jump into expert view, by selecting Expert > 'Switch to full settings' from the menu. You'll now see more settings on the left. At the top is 'Layer height', which is the most important setting to know (as it determines the quality of your print). The Ultimaker 2 can print from 0.06mm to 0.25mm, but, generally speaking, 0.1 is fine for most prints. Experiment with these settings though, as small adjustments can often save you a lot of time.



6 Save and print

You can leave other settings at their defaults (though experimenting is part of the fun), but make sure the 'support type' is set to 'Touching buildplate'. This means you'll get a 3D print version of scaffolding around your model, for areas that overhang. Once you're done, go to File > Save GCode and, for use in an Ultimaker, save it to an SD card, which you then insert into your printer. Depending on the object it can take many hours to complete.

Maintaining your printer

3D printers require some light maintenance to operate at their best, and here we reveal some pro tips to ensure longevity



All 3D printers have their own guides for keeping them well-maintained, but there are certain tips that ring true with most home printers you can buy now.

First up, and possibly the most important, is to ensure that you use quality filament in your 3D printer, and ensure it's the right diameter for your machine. If you put substandard filament in your machine, you're going to experience a number of problems. You'll see uneven prints, poor surface finish and quality, and in the worst case scenarios your printer will get damaged. So ensure you read product reviews before you buy, and try and establish where the filament you're buying originates.

"There are many different standards in terms of quality for both 3D printers as well as the materials", explains Sander Strijbos of colorFabb, a leading filament provider. "All printers treat different materials differently, so there is a learning curve to be made by the user when starting to print".

Filament fundamentals

Once you have the right filament you must ensure your printer is correctly calibrated.



FOR STAR WARS FANS

Stormtrooper helmet

You may have heard that there's a new Star Wars movie coming out soon, and this means a renewed interest in Lucas's classic franchise (if your interest ever went away). You may be surprised at what you can currently find online to print, so take advantage of this brilliant Stormtrooper's helmet whilst it's still available. thingiverse.com/thing:362947

Is this stuff legal?

It's hard to know where to start with the potential for copyright infringement when considering 3D printing. Whether it's infringing on a rights holder's image, copying another person's model, or mashing up existing work, it's all easy to see on the leading model repositories.

As things stand, these sites work in the same way as the likes of YouTube, but in a less automated way. Anyone with a claim can send a takedown notice to the likes of Thingiverse, which will be acted on

accordingly (and it's these sites, and their users, that are likely to be liable, rather than the printer makers themselves). Most online communities police themselves though, and attribution is often enough to satisfy a fellow model maker.

And as for major rights holders? Well, judging by all the Star Wars models out there, there seems to be a watching brief from them. But that could change at a moment's notice so always be aware of what you're printing something for.

Because 3D printers use heads, which are precision-controlled in three axes, a small misalignment can cause poor quality results and printing errors, such as extra blobs of plastic or obvious gaps. Although you'll often spot the result of a problem around the printhead, the result is far more likely to lie elsewhere, such as misalignment or a feed jam.

As most 3D printers use a metal axis, it's good to keep them lubricated, though how you do this can vary depending on each machine. As a rule of thumb though, you can apply a drop or two of sewing machine oil to the x- and y-axes every week or two. The z-axis, which raises and lowers your print bed, may require a lube rather than an oil, so make sure you're using the right

lubricant for the job. And check belt tensions periodically, too.

The last thing to consider is your build plate. This is the platform that your printer lays plastic onto, and to ensure adhesion – and in some cases to prevent warping – some printer manufacturers will suggest putting a thin layer of craft glue on your plate before printing. If you do this, you should give your plate a clean when you start to notice a glue build-up, or when prints start to suffer as a result. As with most things, the more you look after it the better!

Filament comes in a variety of colours and on reels that are fed into the printer. Methods vary, as do filament qualities. We recommend these from colorFabb (colorfabb.com).



What's next in 3D printing?

From human body parts to edible sugar work, 3D printing is only just beginning to fulfil its global potential

M

usic artist will.i.am recently exclaimed in an interview, "3D printing will print people. I'm not saying I agree with it, I'm just saying what's fact based on plausible growth in

technology... If you can print a liver or a kidney, god dang it, you're going to be able to print a whole freaking person".

Whilst most people wouldn't go as far as the famously outspoken Black Eyed Peas frontman, it's fair to say that 3D printing has captured the public's imagination in a way few other technologies have been capable of. And it's the sheer breadth of applications that make it such a fascinating topic for debate.

"Lives can be saved or made easier with the help of 3D printing", says Andreas Langfeld, General Manager at MakerBot Europe. "This always fascinates me the most. In the end, it all depends on the variety of materials that can be used. The more materials or composites are available, the more use cases are possible. I can easily see my dentist 3D printing my inlay or filling in the near future".

New horizons

In fact, the applications of 3D printing often seem to be boundless, whether it's catering to the food industry via the ChefJet (a higher-end 3D printer for crafting creative sugar work from 3D Systems), or helping the movie props industry reinvent itself. And using new

technologies, such as HP's yet-to-be-launched Multi Jet Fusion technology, print times are set to be slashed by a factor of

"I CAN EASILY SEE MY DENTIST 3D PRINTING MY INLAY OR FILLING"

Kickstarter is how most 3D printers are born, such as the triangular-bodied FLUX – a compact home printer that's also expandable with modules for laser engraving and 3D scanning.



Another Kickstarter project, the iBox Nano is being pitched as the world's smallest and cheapest 3D printer.

20 to 30 within the next 18 months.

But it's the possibility of working with more than one material, and ones that can't currently be printed, that excites many.

"At the moment the vast majority of 3D printers work with plastic, which is an incredibly useful material. But it has its limitations", says Adrian Bowyer. "People are starting to add electrical conductors... which means printable electronics embedded in the plastic... Soon we will have machines that can work with half-a-dozen materials with radically different physical properties in a single print. This will mean a steep rise in the complexity, usefulness and value of what can be 3D-printed".

3D scanning

A common misconception about 3D printing is that it's limited to people that can actually use pro-level 3D and CAD applications. This simply isn't the case. As we've already mentioned, there are a host of online resources that feature free models, and you can also create 3D prints in a matter of minutes in the latest version of Adobe's Photoshop, or by using free tools available from Autodesk's 123dapp.com.

Another area that many people are start to look into is 3D scanning, which enables you to transform physical objects into printable 3D models by using a secondary device. The majority of currently available models cost much more than you're probably willing to pay for a 3D printer, but they are getting more affordable (with the Scanify from Fuel3D available for around £800). Having said this, early reports of home 3D scanning are mixed, and in virtually every case you'll need to clean up scans to get them print-ready.

Win a home networking device from AVM!

Enter for your chance to win one of five superb FRITZ!Box 3490 modem, router and media servers!

If your home network doesn't cut it any more, you need a FRITZ!Box 3490. This high-end network device will eliminate laggy speeds and dropped connections by letting you use two wireless networks at the same time, so you can connect all of your personal devices and still enjoy maximum performance.

No matter how you want to connect to it, the FRITZ!Box has what you need. It supports all DSL standards (including VDSL) at up to 100Mbps, while the four Gigabit Ethernet ports and fibre optic compatibility ensure your local network is always up to speed.

It uses blazing fast Wireless AC (802.11ac) to support speeds up to 1300Mbps, enabling you to copy things across your network with incredible speed.

The FRITZ!Box 3490 also has two USB 3.0 ports which allow you to connect external

storage devices and turn it into a home media server for your family to watch the latest blockbuster film download or stream their music wherever they are in the house.

The Question

For a chance to win one of five FRITZ!Box 3490 prizes, just answer the following question:

How many Gigabit Ethernet ports does the FRITZ!Box 3490 have?

- A) Zero
- B) Two
- C) Four

For more information about the FRITZ!Box 3490 from AVM, visit en.avm.de.

**PRIZES
WORTH
AROUND
£575!**



HOW TO ENTER

- To enter, you can visit our website at futurecomps.co.uk/fritzbox3490.
- For full terms and conditions, go to futurecomps.co.uk/fritzbox3490. By sending your entry, you agree to these competition rules and confirm you are happy to receive details of future offers and promotions from Future Publishing Limited and carefully selected third parties.
- This competition closes on 1 September 2015. Over 18, GB residents only.



RATED

REVIEW MANIFESTO

Our ratings explained

Our reviews are totally independent; we're not affiliated with Apple or anyone else, nor are we influenced by advertisers. You can trust us.

Prices we quote for products are correct at the time of writing and are the best we can find from a reputable online dealer, excluding delivery.

★★★★★ Rarely given; a brilliant thing that's as good as you can get in its class right now

★★★★☆ A strong recommendation to buy; any concerns are comfortably outweighed by its strengths

★★★☆☆ A good product you should consider buying, but there may be better options for you

★★☆☆☆ Fundamentally flawed either in concept or execution; there are almost certainly better options for you

★☆☆☆☆ A waste of your money and everyone's time; do not buy!



Given solely at the discretion of the Editor only to truly exceptional products.



Our group test winner gets this award; it's the best of its kind at the time of writing.



“Looking for an entry-level DSLR? Then add this stunning camera to your shortlist”
Canon 760D p88



REVIEWED IN THIS ISSUE

KIT

Canon 760D	88
Musical Fidelity MF200B	88
ViewSonic VP2780-4K	89
Wacom Cintiq 27QHD	90
Samsung 850 Pro 2TB	90
Inateck HB4009	91
STM Swift 15-inch bag	92
Sennheiser ClipMic Digital	92
Cowin Thunder	92
Just Mobile AluCable LED	92

GROUP TEST

Rugged hard drives	94
--------------------------	----

MAC APPS

Tweetbot for Twitter 2.0	98
TextExpander 5	99
Gestimer	99
Reflector 2	99
TechTool Pro 8	100
Glimpses	100

MAC GAMES

Elite: Dangerous	102
------------------------	-----

iOS GAMES

Grim Fandango Remastered	103
Legend of Grimrock	103

iOS APPS

Final Draft Writer 2	104
Pixelmator 2	104
MacID	104
Carbo	105

Canon 760D



Ready to step up to a DSLR camera?

★★★★★

£649 (body only), £953 (with 18-135mm lens)

Manufacturer Canon, canon.com

Features 24.2MP, Digic 6 processor, 1080p video recording at 30fps, Wi-Fi and NFC

The 760D is a new addition to Canon's beginner-level DSLR range. It uses Canon's new APS-C format CMOS image sensor, with an effective pixel count of 24.2 million – which is a notable boost from the Rebel 700D's 18 megapixels. You also get the Digic 6 processing engine and a phase-detection autofocus system with 19 cross-type points for use when focussing images in the viewfinder – all extremely capable.

It has a chassis that is constructed from aluminum alloy and polycarbonate resin, which feels durable for an entry-level model. On the rear, you'll find a touchscreen

display in the same aspect ratio as the image sensor – for viewing images uncropped – as well as a viewfinder, but the 760D offers a third screen, too. A small monochrome LCD on the top plate shows useful information such as the sensitivity, battery level, exposure level, shutter speed and aperture. It's useful to see the camera settings from above.

Another new addition over the Rebel 700D is a dial around the navigation buttons, allowing quick adjustments to exposure. It feels a little lightweight compared to the larger dial found on the back of the



Superb images, ease of use, a decent sensor and secondary LCD make this a very good buy.

likes of the 5D Mark III, and doesn't sit naturally under the thumb, but it is faster than pressing buttons.

Crucially, the 760D takes excellent photos. The level of detail in images is a huge leap up from the 700D, and the level of noise is about the same, or slightly better, throughout the sensitivity range (which is ISO 100-12800 natively for stills). That's despite the six million increase in pixel count. **Angela Nicholson**

MacFormat Verdict The 760D produces superb quality images that match some of Canon's much more expensive cameras.

- + Fantastic picture detail
- + Useful extra LCD
- + Great value
- + Fast dial control

Musical Fidelity MF200B

Balanced headphones for the budget-conscious listener

★★★★★

£250 Manufacturer Musical Fidelity, musicalfidelity.com

Impedance 64ohm **Cable Length** 1.3m **Plug Type** Four-pin locking connector

Musical Fidelity makes a range of higher-end audiophile hi-fi components and the MF200B is its latest release, aiming to bring balanced headphones to the more cost-conscious end of the market.

Balanced headphones use separate left and right sides of the stereo image rather than the 'crossover' found in most, unbalanced models. The idea is that maintaining the purity of each side

leads to a clearer and more accurate soundstage. A consequence of this is that these headphones have a four-pin docking connector and so must be used with a compatible, balanced amp. Be aware that they will not work with a regular headphone port.

The two sides of the headphones extend but even fully extended might be uncomfortably tight for larger heads. The cable is long and sturdy and, as noted, needs to be

connected to a balanced amp. We used the company's V90-BHA model which is compact and can be connected to a computer or a hi-fi, and does also have a regular headphone jack.

There was plenty of volume and the bass end was rich and well-focussed, more so than expected from quite small, on-ear cups such as these. The mid range, however, felt quite harsh and overemphasised. **Hollin Jones**



The balanced design separates stereo channels for a more accurate soundstage.

MacFormat Verdict A decent set of headphones, but outperformed by unbalanced models with a more even sonic character.

- + Great stereo soundstage
- + Rich and focussed bass
- Overly bright mid range
- Requires compatible amp

Viewsonic VP2780-4K

A high-quality 4K display aimed at design and video-editing professionals



£699 Manufacturer Viewsonic, viewsoniceurope.com

Display 27-inch IPS panel **Resolution** 3840x2160, 60Hz refresh
Connectivity 4x USB 3.0, 3x HDMI, 1x DisplayPort, 1x mini-DisplayPort

Viewsonic's new VP2780-4K isn't the cheapest 4K monitor on the market, but its high-quality IPS display makes it a good choice for professional users.

Admittedly, it's not a very stylish display. The bulky three-legged stand and chunky plastic border that runs around the edge of the screen look rather dull. However, Viewsonic gets all the basics right, with a flexible, ergonomic design that allows you to freely tilt and swivel the screen, as well as adjusting the height, an omission that can irritate iMac owners. You can even rotate the screen through 90° and use it in the upright portrait position.

Of course, none of those features would matter if the image quality wasn't up to scratch, but the VP2780-4K doesn't disappoint here. The image is as finely detailed as you'd expect from the 3840x2160 resolution, with bright, strong colours and a matte finish that helps

to reduce glare and reflection (though you might want to check Apple's support document at <https://support.apple.com/en-gb/HT202856> to see if your Mac can support 4K output with 60Hz refresh rate on this display). And if your naked eyes don't convince you then the spec sheet lists several features designed to satisfy demanding professional users, including 100% rendering of the sRGB colourspace, 99% EBU mode (a pro monitor standard) for video work, and a slightly vague Delta-E setting of 'less than 2.0'. This measures accurate colour reproduction between screen and print; the closer to 1.0 the better, so less than 2.0 is pretty decent.

There are plenty of other useful features too, including three HDMI inputs, DisplayPort and mini-Displayport, along with a picture-in-picture option. The monitor doesn't include any built-in speakers, but it does have an audio connector so that you can plug in external speakers or headphones.

If you just want a large, high-res display for editing some holiday snaps and home videos, then you can get cheaper 4K displays for around £500. However, the accurate colour reproduction here will justify the extra cost. **Cliff Joseph**



The colour reproduction meets the needs of demanding professional users, but it's costly.

- ⊕ Bright, colourful 4K display
- ⊕ Accurate colour reproduction
- ⊕ Multiple video inputs
- ⊖ Expensive for 4K

TEAM TALK



4K monitors are becoming *the* thing to have for photo, video and graphic professionals, but I still envy the new iMac's 5K display. But if you don't need a new desktop Mac and want an amazing display, I think this fits the bill.

Its design may look rather dated, but this 4K monitor boasts up-to-date features and technology.



Wacom Cintiq 27QHD

A huge touchscreen tablet that enables working directly on images

★★★★★

£2,099 Manufacturer Wacom, wacom.eu

Size 77x46.5x5.5mm **Resolution** 2,560x1,440
Pressure levels 2,048 **Weight** 9kg



You can assign commands to the ExpressKey Remote's buttons to quickly reach tools you depend on.

➤ This graphics tablet's huge 27-inch screen is enough to raise interest in most photographers, and when linked into a MacBook Pro with Photoshop CC loaded it's clear why the Cintiq range is so popular amongst creative professionals.

The 27-inch screen offers plenty of working space, though the physical size does mean that you'll need a large desk to take both the tablet and the rest of your equipment.

Setting up the tablet takes less than 10 minutes, and its drivers and software are fully integrated with Photoshop CC and Lightroom. Wacom's software enables you to customise commands and pressures both for the tablet and the small ExpressKey remote, a small device which has directly accessible mouse-style buttons.

However, the best part is that you work directly on the image, and this

particular model's 2560x1440-pixel resolution makes the display crystal clear. Adjusting the pressure of the pen of the surface makes working with tools such as dodge and burn a cinch. The Cintiq 27QHD is an absolute luxury due to its price, but it's a joy to use and offers accuracy and speed that would be hard to match with any other device – even a standard Wacom tablet.

Alastair Jennings

Mac
FORMAT
VERDICT *A luxurious way to work on images, if you've got a desk large enough for it – and a big wallet too.*

- Widescreen QHD display
- Excellent colour calibration
- Customisable shortcuts
- ⊖ Expensive

Samsung 850 Pro 2TB

Bigger than any other SSD to date, but is it the best one around?

★★★★★

£750 Manufacturer Samsung, samsung.com

Warranty 10 years



Serial-ATA SSDs can be fitted to older MacBooks – and even current desktop models if you're brave enough.

Angelbird's SSD2go pocket by 39MB/sec when writing sequentially, reaching 424.4MB/sec. It's certainly up there with the best SATA SSDs.

Viewed alongside newer storage connectors, this drive's use of SATA means it is inherently unable to boost your Mac to match those with PCIe flash storage, but it'll perform well enough in Macs that can take it, and over USB 3.0. **Nicholas James**

➤ Performance or capacity is the dichotomy that's dominated data storage since mainstream SSDs appeared. This one combines the speed of flash with multi-terabyte mass storage that has been the preserve of conventional hard drives.

Its huge capacity is largely down to Samsung's 3D V-NAND memory, which stacks memory cells atop one another, rather than arranging them in a flat, 2D array. Yet it's a plain old SATA drive, so as a MacBook Pro

upgrade it's best suited to 2011 and 2012 models – the SATA-II interface in older ones will inhibit its transfer rates. We tested it in a sub-£20 USB 3.0 enclosure, since many recent Macs can boot from that interface, should you not want to perform serious surgery on your iMac or mini.

In our testing, the drive's transfer rates were on par with other external SSDs we've seen – a few megabytes per second faster than most of them in most tests, and it outpaced even

Mac
FORMAT
VERDICT *If you need the biggest and best SATA SSD for a MacBook upgrade, this one is the cream of the crop.*

- Huge capacity for an SSD
- Excellent performance
- Mega 10-year warranty
- ⊖ Expensive upgrade

We're still loving...

CABLEDROP

Untidy cables are not a problem on Christian's desk anymore!



We all buy in to the Apple aesthetic of a minimalist desk space, dominated by a shiny Mac, a dock for our iOS devices, and hopefully not a lot else.

The fact is, though, we have a lot more stuff than that all vying for its rightful position on our desks, and not that much of it is truly wireless yet. So, untidy cables are still a problem and that's why CableDrops from Bluelounge (bluelounge.com) are about as perfect an analogue solution as you can get for now.

CableDrops are little plastic holders basically, which affix to desks, walls and, well, anywhere really, to keep your cables in place. Just pull back the sticky tab and voila! The good news is that they come in two different sizes too, CableDrop (for Thunderbolt and 30-pin Dock to USB cables) and CableDrop Mini (for Lightning and Micro-USB cables). They work for plenty of other things too, such as holding a pair of Apple's EarPods, your MacBook's charging cable, or even a pen or stylus.

We love it when we find such simple solutions to all too common problems, and at about £8 for a pack of six from Amazon, there's little reason not to give them a try. Because, let's face it, wires are going to be with us for some time yet!



It doesn't look like much but the HB4009 is a new way to link different computers.

Inateck HB4009

File transfer between various home computers made really easy

★★★★★

£23 **Manufacturer** Inateck, inateck.com

Requires OS X 10.6 or higher, Windows 2000 SP3 or later, Android 2.2, 3.0 or 3.1 or later, USB ports

At a simple level, this is a compact, three-port USB 3.0 hub, but it can also attach to a second Mac, PC or Android device. When you run the software (which mounts as a CD on each system when the HB4009 is plugged in), you can use the keyboard and mouse connected to your main computer to control the secondary one. Switch between them with a keyboard shortcut or by moving your pointer off the edge of the screen; it's cool, if disconcerting, to throw the pointer off the edge of a screen and onto a PC. Using a keyboard and mouse on an Android phone (sadly, though predictably, not iOS) is even weirder.

You can browse the hard drives of each computer from the other, opening, copying, and dragging files. Yeah, you 'should' use a network, but

this is a very convenient method. Even your clipboard is synchronised. In this, the HB4009 is actually richer than a traditional KVM switch, and cheaper than most, although it doesn't offer the option to share displays. A unique offering though, and it works! **Christopher Phin**



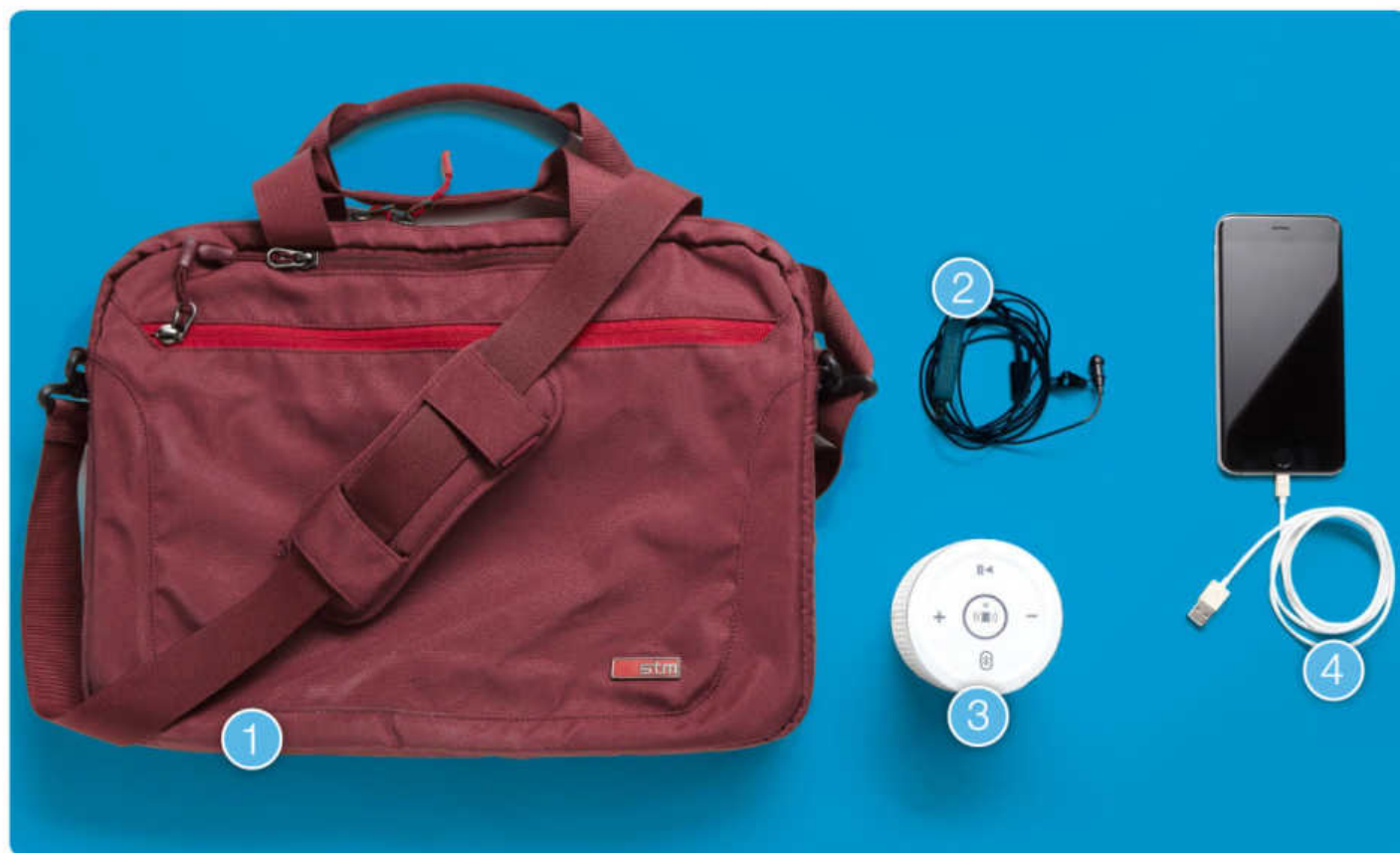
The software isn't pretty, and the manual is poorly written, but this is a hugely useful little device that's very cheap.

Despite being weird, it works!

Terrific value for money

Can't control iOS devices

A few rough edges in the software



STM SWIFT 15"

★★★★★

£40 Manufacturer STM,
stmbags.com

1 The main feature of this laptop shoulder bag from STM is the so-called 'tech cell', providing room for your 15-inch MacBook Pro, iPad and charging accessories in a soft-lined padded area. There are plenty of other handy pockets too, including another padded one at the front. For regular flyers there's an integrated luggage passthrough at the back, which secures the bag to the handle of your wheeled trolley. The shoulder strap is removable, in which case the grab handles turn the bag into a great carry case too. **Christian Hall**

Mac
FORMAT
VERDICT *Feels great on the shoulder, looks good, has plenty of storage areas and it comes at a very reasonable price too.*

CLIPMIC DIGITAL

★★★★★

£199 Manufacturer Sennheiser
en-uk.sennheiser.com

2 This is basically a Sennheiser ME 2 lavalier (lapel clip) mic with a Lightning adapter on the other end, rather than a 3.5mm jack. That's good because the ME 2 is a well-regarded mid-range mic. You can record audio directly into Apogee MetaRecorder on your iPhone, with gain and effects controls, or use it with Camera or most other apps. How you configure the mic in Apogee Maestro is saved in the hardware, so choices apply regardless of app. The mic does a great job of isolating your voice, and the wind shield is surprisingly effective. **Christopher Phin**

Mac
FORMAT
VERDICT *There's a premium for Lightning connectivity over the basic ME 2, but the ClipMic Digital is worth it – it's a great little mic.*

COWIN THUNDER

★★★☆☆

£90 Manufacturer Cowin,
cowinmusic.com

3 The 'Lightning mode' on this portable Bluetooth speaker refers to its vibration feature, allowing it to thump in time with your music, the idea being it turns any flat surface into a speaker. The vibration does make a small difference by adding extra oomph to bass notes, but it means music feels rather empty when in normal mode. The Thunder's sound quality is generally disappointing; while it works best when blaring bass-heavy genres like hip hop, its muddled mid ranges make rock and punk sound very messy. **Alex Blake**

Mac
FORMAT
VERDICT *The Thunder is a nice idea that is ultimately let down by its poor sound quality. Its vibration could also be stronger.*

JUST MOBILE ALUCABLE LED

★★★★☆

€25 (about £18) Manufacturer
Just Mobile, just-mobile.eu

4 This 1m Lightning cable has a light in its USB end that tells you the charging status of your iOS device. It pulses orange while charging and goes solid green when done. Sadly, the light is nowhere near as bright as, say, the one on Apple's MagSafe chargers. From more than about a metre away under bright lighting, you have to look very carefully to make it out – we often gave up and moved closer. The light being on the USB end is a poor choice too, since the end going into your iPhone is at least as likely to remain in sight. **Alan Stonebridge**

Mac
FORMAT
VERDICT *Perfectly fine as a Lightning cable, but the brightness level and the location of the light make its distinguishing feature fall short.*

SUBSCRIBE

Get our digital edition!



Interactive tutorials, extra content, fully searchable and more!

Online myfavouritemagazines.co.uk/MACsubs



Free trial subscription is for new subscribers only.
Interactive features are iPad only and not available on iPhone.
*First 2 issues free on the App Store and Google Play, only 1 free issue on Zinio



Rugged hard drives

When the going gets tough - you'll need a rugged hard drive to protect your data

➤ There are dozens of portable hard drives now available that you can use to back-up your MacBook when you're on the move and, like the new super-slimline MacBook, many of these drives put their emphasis on lightweight design and portability.

A pocket-size portable drive might be fine if you're tapping away on your laptop in a coffee shop, but there are times when you need something a little sturdier to protect your important files. If you're working outdoors on a photoshoot then you need to know that your hard drive can cope with a sudden burst of rain, or exposure to dust or sand. There are plenty of other

people who can benefit from a really rugged hard drive too - a musician in a nightclub, an engineer on a building site, or just rugged outdoorsy types who like to take their laptops on holiday with them... or just those who are prone to dropping things!

Not surprisingly, the extra-rugged design of these hard drives means that they are generally bigger and heavier than their more portable counterparts. But you shouldn't judge a hard drive by its cover. Manufacturers often boast about 'military-standard protection' -

You need to know that your hard drive can cope with a sudden burst of rain, or exposure to dust

but that doesn't mean anything unless you know which particular military standard they're talking about. It's worth doing a little research to see if the manufacturer quotes a 'drop-test' figure that tells you if the drive can survive being dropped from a specific height. Many drives will also include an 'IP' rating - ingress protection - that indicates the drive's ability to resist water and dust.

Some people might prefer to opt for solid-state drives as they don't have any moving parts that can get damaged. However, solid-state drives are still very expensive and their electrical components are also susceptible to water damage, just like an ordinary hard drive. So, if you work or play in the great outdoors then these rugged drives are some of the best currently around at keeping your files safe.

Cliff Joseph

RUGGED EXTERNAL DRIVES | AT A GLANCE



	Buffalo MiniStation Extreme	Freecom Tough Drive HDD	G-Tech G-Drive ev ATC	LaCie Rugged RAID	Transcend StoreJet 100
Website	buffalo-technology.com	freecom.com	g-technology.com	lacie.com/uk	uk.transcend-info.com
Price (as reviewed)	£100 (1TB)	£80 (500GB)	£145 (1TB)	£329 (4TB)	£100 (2TB)
Connectivity	1x USB 3.0	1x USB 3.0	1x USB 3.0	1x Thunderbolt, 1x USB 3.0	1x USB 3.0
Dimensions (HxWxD)	21x90x141mm	19x83x140mm	30.5x108x164mm	34x91x148mm	21x83x130mm
Weight	277g	200g	372g	560g	230g
Drop-Resistance	2.3m	2.0m	2.0m	1.5m	1.22m
IP Rating	IP53	IP54	N/A	IP54	N/A



1 G-Tech G-Drive ev ATV
£146 g-technology.com

2 LaCie Rugged RAID
£329 la-cie.com/uk



TEST ONE

DROP TEST

Are these drives as tough as they look?

➤ At first glance, it's the big, chunky drives from LaCie and G-Tech that would seem to be the most sturdy and rugged. That's not always the case, though. Despite its shock-absorbing rubber sleeve, LaCie quotes a drop-test height of just 1.5m for its Rugged RAID drive. The armour-plated G-Drive goes slightly further at 2m, but that height is still matched by the far less imposing Freecom Tough Drive. In fact, it's the rather conventional design of Buffalo's MiniStation Extreme that makes the boldest claim, quoting a height of 2.3m. The weakling of the group would appear to be Transcend's StoreJet 100, which looks like an ordinary portable

hard drive wrapped in a thin rubber pouch, and only claims to be able to survive a drop of 1.22m. In the end, regardless of size and appearance, all five drives survived a drop from a height of 2m with no problems at all (and after we had run other tests of course). LaCie did add that the Rugged RAID could survive a one ton vehicle driving over it, but we didn't have one to hand so we'll take their word for that particular test.

TEST RESULTS

Buffalo MiniStation Extreme	★★★★★
Freecom Tough Drive HDD	★★★★★
G-Tech G-Drive ev ATC	★★★★★
LaCie Rugged RAID	★★★★★
Transcend StoreJet 100	★★★★★

TEST TWO

WATER AND DUST

Staying safe, come rain or shine

➤ As well as surviving shocks and drops, these rugged drives also need to withstand water and dust when they're exposed to the great outdoors. Three of the drives quote specific IP ratings - IP54 for the Freecom Tough Drive and LaCie Rugged RAID, and IP53 for the Buffalo MiniStation Extreme. Those ratings indicate that the drives offer limited - but not complete - protection from dust, spilled liquids or splashed water. All three drives coped with our shower spray test, but they're not 100% dust or water-tight so they may not survive if they are fully submerged under water.

The Transcend StoreJet 100 doesn't quote an IP rating at all, and

its exposed USB port is clearly a weak spot, so we definitely wouldn't want to risk that drive on a sandy, wet beach. G-Tech doesn't give an IP rating for its G-Drive either, but does say that its protective case can survive in one foot of water for up to 30 seconds, and is also light enough to float up to the surface. This was the only drive that we tested by fully submerging it in the bath - with no adverse effects at all.

TEST RESULTS

Buffalo MiniStation Extreme	★★★★★
Freecom Tough Drive HDD	★★★★★
G-Tech G-Drive ev ATC	★★★★★
LaCie Rugged RAID	★★★★★
Transcend StoreJet 100	★★★★★

BOXOUT | GETTING TOUGH

There are two sets of conditions that these rugged drives are designed to cope with. They have to survive sudden shocks or impacts, so we held them above our head at a height of two metres (6.5ft) and dropped them onto the pavement outside our office. That height was actually significantly greater than most of the manufacturers recommend on their spec sheets, but we were pleased to see that all the drives survived this test intact.

Many manufacturers also quote an IP rating - ingress protection - for resistance to water and dust. Most of the drives tested here only offer

IP54 or IP53, which means they can survive exposure to dust or splashes of water, but they're not designed to be totally submerged underwater. For this test we held the drives under a shower spray for 30 seconds and - after a quick rubdown with a towel - they all carried on working normally. So, basically they can be drenched in the rain and be fine. The one exception here was G-Tech, which claims that its G-Drive ev ATC can cope with up to 30 seconds underwater. We took them at their word and dunked the drive completely underwater in the bath - with, thankfully, no ill effect.



Rugged drives need to survive impacts, dust and water.



3 Buffalo MiniStation Extreme
£100 buffalo-technology.com

4 Transcend StoreJet 100
£100 uk.transcend-info.com

5 Freecom Tough Drive HDD
£80 freecom.com

TEST THREE

PERFORMANCE

These drives are tough, but are they fast?

Along with rugged design, you'll still want good performance for backing up your important files. The Freecom Tough Drive and G-Tech G-Drive ev ATC both use fast, 7200rpm drives with a USB 3.0 interface, and manage a dead-heat on performance. When backing up smaller files, they have average write and read speeds of 120MB/sec and 140MB/sec respectively. They were head-to-head with the BlackMagic video test too, both peaking at 450MB/sec and 710MB/sec for write and read.

The StoreJet 100 produced write and read speeds of 92.6MB/sec and 131.6MB/sec with smaller files, while the MiniStation Extreme dropped to

66.7MB/sec and 113.6MB/sec. However, both drives picked up on the BlackMagic video test, and managed to match the scores of the Freecom and G-Tech drives.

But, the standout here is LaCie's Rugged RAID. Its RAID 0 option and Thunderbolt interface achieved write and read scores of 200MB/sec and 227.3MB/sec with smaller files, although it was in line with its non-RAID rivals for the BlackMagic test.

TEST RESULTS

Buffalo MiniStation Extreme	★★★★★
Freecom Tough Drive HDD	★★★★★
G-Tech G-Drive ev ATC	★★★★★
LaCie Rugged RAID	★★★★★
Transcend StoreJet 100	★★★★★

TEST FOUR

ADDED EXTRAS

These drives have brains as well as brawn

Our main concern here is with the rugged design of these drives, but some of them offer other interesting features as well. We like the smart design of the Buffalo MiniStation Extreme, and it also includes 256-bit encryption to provide extra security for your files. LaCie's Rugged RAID offers encryption too, as well as the RAID 1 mode that provides duplicate back-ups to guard against drive failure. It also includes a USB port, along with its Thunderbolt interface, so you can use it with older Macs and Windows computers too.

However, G-Tech's G-Drive ev ATC has the smartest and most practical idea. Its all-terrain case (ATC) actually

pops open and allows you to remove the drive from the case. The G-Drive on its own is actually a lightweight portable drive that you can easily carry around when you're in town and don't need the rugged case. Then you can just insert the drive back into the case when you need a bit of extra protection for a weekend trekking across the Pennines. It's a novel idea and one we warmed to quickly.

TEST RESULTS

Buffalo MiniStation Extreme	★★★★★
Freecom Tough Drive HDD	★★★★★
G-Tech G-Drive ev ATC	★★★★★
LaCie Rugged RAID	★★★★★
Transcend StoreJet 100	★★★★★

THE WINNER | G-TECH G-DRIVE EV ATC



The five drives we selected all had some very good points, and none were considered poor buys. LaCie's Rugged RAID takes top honours for performance, but at more than £300 it's something of a niche product for creative professionals. The StoreJet 100 from Transcend is good value at just £100 for 2TB of storage, but that exposed USB port is a real chink in its armour. Buffalo's MiniStation Extreme and the Freecom Tough Drive HDD only offer 1TB of storage, but they'll provide greater protection and good performance while still coming in at around £100 which is pretty good value.

However, the clever two-piece design of G-Tech's

G-Drive ev ATC gives you the best of both worlds. The all-terrain case (ATC) provides really strong protection when you need it most, but still gives you the option of removing the drive from the case for routine day-to-day use.

FINAL RESULTS

Buffalo MiniStation Extreme	★★★★★
Freecom Tough Drive HDD	★★★★★
G-Tech G-Drive ev ATC	★★★★★
LaCie Rugged RAID	★★★★★
Transcend StoreJet 100	★★★★★



Tweetbot for Twitter 2.0

It's even better, but still isn't quite the perfect Twitter app



£9.99 Developer Tapbots, tapbots.com

Requires OS X 10.10 or higher



Tweetbot is a Twitter app worth paying for, and this release is another reason why

Twitter's official client remains absent from our Macs. For starters, when using Tweetbot you don't have to suffer through Twitter's incessant efforts to wedge advertising or other unwanted content into our timelines, but the ability to display multiple columns side-by-side and have more granular control over Twitter's notifications also makes this a worthwhile investment.

iPhone parity

Version 2.0 now fits in nicely alongside Apple's new OS X aesthetic, while finally catching up with other features introduced over the last year or so in the iPhone version. (There's still no sign of the promised iPad update, which is starting to buckle under the weight of recent Twitter changes.) This version also plays nicely with the latest quoted tweet style, and is ready for longer Direct Messages once Twitter pulls the trigger.

Tweetbot for Twitter features a flatter, Yosemite-style interface.

Make no mistake: this is largely a cosmetic and interface update, but the fact it's free for existing customers (and now cheaper for new buyers) mostly makes up for the absence of any hot new features. Avatars can now be displayed as circles or rounded squares with the option to display Twitter's familiar

The biggest caveat remains Tweetbot's apparent indifference toward inline media content. Tweets with multiple photos are now supported, but there's no way to display them all at once, requiring a cumbersome 'click, view, close' routine for each. There's also still no way to watch inline videos

It fits in nicely alongside Apple's new OS X aesthetic, while finally catching up with features introduced in the iPhone version

blue 'verified' check mark, while the entire application has adopted a flatter appearance with support for sharper Retina displays.

(including GIFs), which go to your default web browser instead. This would have been many users' top priority in this update.

Another new feature that could use improvement is the grid of small icons that appears whenever a message is selected. These handy shortcuts for Reply, Retweet, Favorite, and more practically require a magnifying glass to see on our 27-inch Thunderbolt Display, although the Share button is a welcome improvement for copying or emailing tweets, as well as saving linked articles to 'read later' services.

Still, we haven't seen a better Twitter client for the Mac and it will take a lot to persuade us to move over to something else.

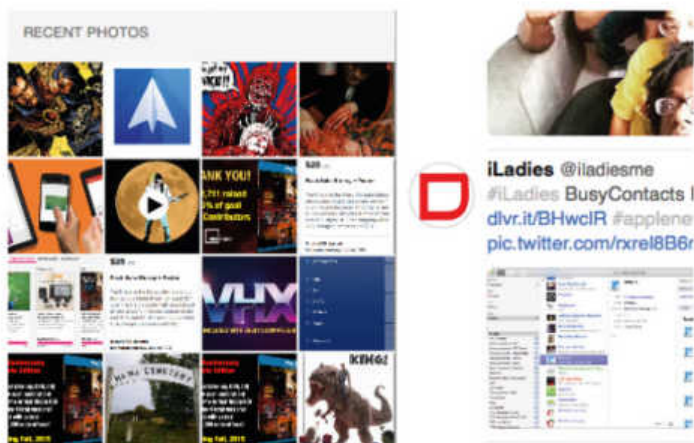
J.R. Bookwalter



TEAM TALK



What was good about Tweetbot remains so, but J. R. has hit the nail on the head. Updating to match Yosemite's look is good, but it's the way the app presents some media that will be your biggest concern.



This version brings the excellent photos view from the iPhone version to OS X.



Tweetbot delivers a long-awaited fresh coat of paint and feature parity with iPhone, but comes up a little short.

- + Slick new Yosemite-style look
- + Parity with iPhone version
- No 'view all' for multiple images
- No inline playback of videos

TEXTEXPANDER 5

Cut down on your keystrokes

★★★★★

\$44.95 (about £30) Developer SmileOnMyMac, smilessoftware.com

Requires OS X 10.10 or higher



TextExpander enables you to define phrase shortcuts that, when typed, it replaces with some other content – that can be a spelling correction, emoji, a multi-line address, a snippet of code, or a combination of text and images. You might set 'esig' to expand to your email signature, or use 'recycle' to write the Unicode character for the universal recycling symbol.

Advanced snippets include operators and placeholders, so you can use a shortcut to enter today's date, or boilerplate text with placeholders you quickly complete in a floating window.

The app's performance proved solid and snappy throughout testing, boosting productivity, which this release aims to boost with suggestions. It monitors your input and notifies when you could have saved time by using a shortcut; it also suggests new snippets. The former is great, but the latter too often recommends very short, commonly-used phrases, which we didn't find that helpful. **Craig Grannell**



Still one of the finest productivity aids on the Mac, although the flagship new feature needs some work.

GESTIMER

The most natural reminders app?

★★★★★

£2.29 Developer Martin Nguyen, maddin.io

Requires OS X 10.10 or higher



If you thought reminders were sown up by Apple's own app and the likes of Wunderlist, then this menu bar app for Yosemite will make you think again. Gestimer says it's for those "little reminders", which is something we scoffed at, but after just a few days you'll begin to see the truth in it, and how Gestimer can work alongside your existing reminders apps, rather than replacing them.

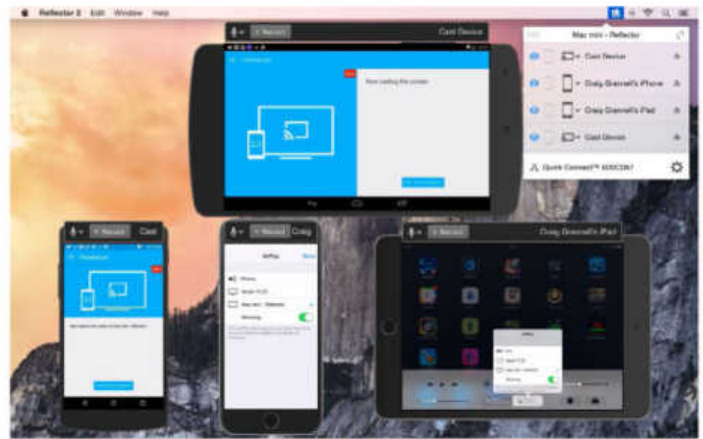
To set a new reminder, you click and hold on the app's menu bar icon and then drag it downwards to the centre of the desktop. As you drag, the time

for that reminder increases. Let go and you can enter your reminder text and click 'add a description' to set it.

Gestimer is perfect for quick reminders when you're in the middle of something because its dialog boxes are unobtrusive. We found ourselves using it for things we wouldn't normally bother adding to Reminders. You really won't bother jotting last minute things down on paper now! **Christian Hall**



A fantastic way to complement your more serious to-do apps on the Mac with something less intrusive.



Reflector enables you to mirror iOS and Android devices to your Mac's display.

Reflector 2

Get your iOS and Android device displays mirrored on your Mac's screen

★★★★★

\$14.99 (about £10) Developer Squirrels, LLC, airsquirrels.com/reflector

Requires OS X 10.7.5 or higher, a supported iOS or Android device, a local network connection for AirPlay or Google Cast mirroring



Reflector bills itself as "the last receiver you'll ever need", and its developers have a point. Along with enabling real-time mirroring of iPhone and iPad displays, it does the same with Google Cast-compatible Android devices. We quickly got four devices (iPad Air, iPhone 5s, Nexus 4 and Hudl 2) working simultaneously, making our Mac look like it had a serious identity problem.

By default, connected devices are surrounded by a 'frame' representing their hardware, which differentiates mirrored content. Reflector rescales virtual devices, so all can be shown at once, but annoyingly overlays other apps. These settings can be adjusted in the app's preferences, or by using contextual menus.

Otherwise, a single device can be 'emphasised', shrinking others, or the menu extra can be used to show/hide specific items. The full-screen mode is less impressive. It's accessed in the app's preferences and displays all devices rather than just one.

Performance was great during review, with little or no lag, even

when playing games. Streaming content was problematic. Apple's apps were fine, but getting content across from certain broadcast media apps seemed impossible.

Reflector can record any device and add a voiceover from a mic input. Output was mostly fine during testing, bar the odd dropped frame, but it's disappointing that videos are restricted to TV-oriented outputs. Native iPhone or iPad resolution would have been nice, rather than the likes of 1080p in landscape, and 'portrait' videos being largely black background. Still, overall ease of use makes this one of our favourite device receivers. **Craig Grannell**



A largely impressive app for mirroring content from mobile devices, with some smart display options.

- Great performance
- Works with iOS and Android
- Full-screen mode isn't much cop
- Recordings not at native resolutions

TechTool Pro 8

This diagnostic and repair tool just became even more useful



\$99.99 (about £63) Developer Micromat, micromat.com

Requires OS X 10.8 or higher



TechTool Pro has long been the go-to diagnostic, repair and recovery tool for your

Mac, a potential lifesaver in just about any situation short of your Mac internally combusting. It's close to the complete solution, and version 8 packs in more tests while improving key aspects of the suite – such as integrating the portable ProToGo tool in the main interface.

The program's Tests section is now overflowing with ways to monitor the health of your Mac, with the program now able to check just

about any sensor in your Mac in addition to the core ones. Version 8 also adds new tests for fans and MacBook batteries too.

The Tools section remains largely unchanged – it's where you'll find the essential eDrive creator, which provides a recovery environment with access to all of TechTool's functionality should your Mac stop booting. You'll also find a number of repair and recovery utilities here, focussed mainly on your hard drive, but video and audio hardware too.

The suite is rounded off with its System Preferences Protection pane,



Give your Mac a thorough health check with TechTool Pro's diagnostic tools.

which takes snapshots that can aid in data recovery. We also like the program's built-in disk imaging tools, which you'll need to use prior to any of these tools – in the past, some users have complained of data corruption however.

If you're an existing user, then TechTool Pro 8 is worth upgrading for the new tests alone. **Nick Peers**



TechTool Pro 8 is an essential buy for technicians and a potential lifesaver for the rest of us too.

- + New tests broaden its scope
- + Powerful set of fix-it tools
- + Accessible user interface
- Pricey for first-time buyers

Glimpses

A quick way to make still motion videos – if you actually want to



£18.99 Developer Eternal Storms Software, eternalstorms.at

Requires OS X 10.10 or higher



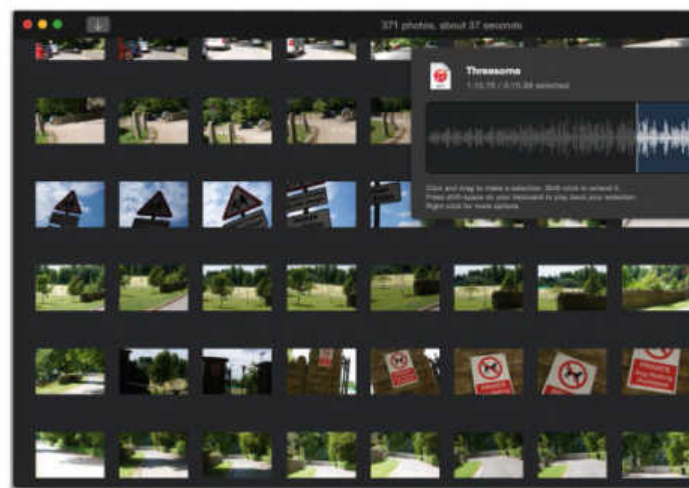
This application is easy to use, looks good and does what it promises to do. But it's a bit

idiosyncratic, not cheap, and Apple's old QuickTime Pro app can achieve the same basic effect.

The app's job is to create 'still motion videos', wherein a series of still photographs are played one after the other. The result can be fun, and it can be effective as a way of throwing you into an impressionistic whirl to summarise a holiday, say, or a way to create pacing, such as taking few photos on the road

leading up to a landmark, and then lots of photos of it.

The app itself is competent. You can import photos from Finder, Photos/iPhoto/Aperture, Flickr and Instagram, then sort them by date, title or even by colour to set the chronology. Next, you can add one or more soundtracks, and there's a simple yet flexible editor to let you trim and concatenate these tracks. Set the finished resolution (including 4K, which feels like a bit of a gimmick) and frame duration (optionally matching the duration with your soundtrack) and export.



This app does exactly what it promises, but could do with finer control.

We would like the option of previewing the speeds rather than having to wait for the export, and an advanced editor where we could manually adjust the frame rate at points along the timeline to draw the viewer's attention to particular shots would help justify the slightly high price tag. **Christopher Phin**



A competent movie app for creating still motion videos, but it lacks advanced features to justify the cost.

- + Very easy to use
- + Excellent soundtrack editor
- Slightly basic feature set
- 4K feels like a gimmick



OUT NOW

www.feralinteractive.com



LEGO JURASSIC WORLD software © 2015 TT Games Ltd. Produced by TT Games under license from the LEGO Group. LEGO, the LEGO logo, the Brick and the Brick configurations and the Minifigure are trademarks of the LEGO Group. © 2015 The LEGO Group. Jurassic World is a trademark and copyright of Universal Studios and Universal Entertainment, Inc. Licensed by Universal Studios Licensing LLC. Published on the Mac by Feral Interactive Ltd. Mac and the Mac logo are trademarks of Apple Inc., registered in the U.S. and other countries. Ford and the Ford logo are trademarks of Ford International Ltd. All other trademarks and copyrights are the property of their respective owners. All rights reserved.

WB GAMES LOGO, WB SHIELD, TM & © Warner Bros. Entertainment Inc.



Elite: Dangerous

Space is big – really, really big... your Mac must be a Tardis!



£39.99 Developer Frontier Developments, elitedangerous.com

Requirements OS X 10.10 or later, 2.3GHz quad-core Intel Core i5 processor, internet connection, see website for graphics cards



The fourth game in a series that stretches back to the mid-'80s and the Apple II,

Elite: Dangerous gives you a spaceship and a 1:1 recreation of our galaxy populated by non-playable characters and, if you wish, other players. From then on, it's up to you whether you carry out missions, look for a fight, trade commodities or go mining – all so you can buy a bigger ship and repeat the cycle.

It's a game of spaceships and they look wonderful – all chunky metal, gleaming weapons – and space stations look incredibly detailed. There's a real feeling of solidity to them, especially when they crash. You can't get out of them to explore, although this may be implemented in the future, and using the external camera shows an empty pilot's seat despite you clearly possessing a body in-cockpit.

There's a choice of two handling models: the default is to have Flight Assist on, which gives you handling like an interstellar P-51, while turning it off lets you fly in a more realistic Newtonian fashion, which takes a bit of practise to master but is enormously satisfying to pull off.

Ships have hardpoints for mounting weapons and internal

In space, everybody can see you go BOOM even if they can't hear it.

bays for shields, scanners and other equipment, all of which you can upgrade – but there's a trade-off between power, cost and weight that prevents you from maxing out everything at once. Power management becomes a factor once you're flying, with poor choices leaving you gasping for breath as your life support shuts down.

Spaceships look wonderful – all chunky metal, gleaming weapons – and space stations look incredibly detailed

The game can feel empty, especially when you get away from the populated systems, and has been criticised since its launch on Windows for being wide but shallow. Version 1.3 of the game

addressed this by adding factions jockeying for power. There's always been a plot of some sort in the Elite: Dangerous sandbox, involving the transfer of power in the Empire as the emperor falls ill, but this new content makes it bigger and more explicit. Prove your loyalty to your chosen power and you'll receive bonuses and new weapons; defect

and your erstwhile master will hunt you down. Ignore all this and strike out on your own and you'll still have a great time.

For Elite: Dangerous to look near its best, you'll need a reasonably recent Mac with a dedicated graphics card. We could play on a 2011 21-inch iMac, but getting it to play smoothly meant keeping the settings very low – hardly the full experience. Performance was good on our 2014 high-end 15-inch MacBook Pro, naturally.

Elite is a triumph for developer Frontier. Vaporising a stranger, running a load of stolen explosives into the black market for a massive profit or teaming up with friends to hunt space pirates never felt so close to reality. **Ian Evenden**



TEAM TALK



It's a long time since I've been so in awe of a game's presentation. The controls are challenging, and you must commit a lot of time to get anywhere, yet the concept of an evolving galactic sandbox is enticing. I can't wait to see how it might change if Frontier adds the original game's Thargoid threat.



You need to strike a balance with ship upgrades, rather than just maxing out everything.



The best space game on the market, and your only choice for multiplayer dogfights off the shoulder of Orion.

- + Looks beautiful
- + Sounds good too
- + Plenty of ships and content
- Many empty solar systems

Grim Fandango

A classic adventure game is back from the dead, mildly remastered

★★★★★

£7.99 Developer Double Fine Productions, doublefine.com

Works with iPhone, iPad **Version** 1.01



This adventure game from 1998 was one of the last of its kind from George Lucas's games studio – but don't take that as a reflection of its quality.

You play Manny Calavera, who is serving time for his sins as a travel agent in the Land of the Dead. He must help the deceased pass on to the next life before he's allowed to move on as well. The macabre premise is backed up with a strong skeletal Day of the Dead aesthetic and characters that are as appealing as those found in better-known

adventures, such as LucasArts' own Monkey Island series.

Small graphical embellishments, such as the shadow cast by Manny's office blind, are nice (if expected) modernising touches that manage to preserve the original's visual style.

Manny's feet follow your taps in this version – if only the original had used such appropriate controls – but some things are unchanged for the worse: browsing your inventory one item at a time is unnecessarily slow.

It's worth persevering, and easy to do so thanks to humorous dialogue, which had us chuckling out loud.



Interesting characters and locations make Manny's world a joy to explore.

Exploring every dialogue option is a pleasure, and it's best to play with sound on to enjoy the voice acting.

If you have a choice of playing on iPhone or iPad, make it the latter to enjoy fine detail in the environments. Also, the game uses Apple's Metal tech; see its App Store page for suitable devices. **Alan Stonebridge**



For a game about the afterlife, Grim Fandango is anything but deathly when it comes to your enjoyment.

- + Quirky and entertaining
- + Great characterisation
- + Attractive visuals despite its age
- Puzzles can be a little quirky

Legend of Grimrock

A classic role-playing adventure, grim by name and dark by nature

★★★★★

£3.99 Developer Almost Human, grimrock.net

Works with iPad **Version** 1.0.48



Grimrock is an old-school dungeon crawler in the style of Dungeon Master and Eye of the Beholder. By old-school, we often mean old-fashioned: this is a game of dark and claustrophobic corridors, warriors and wizards, and graph paper maps straight out of the 1980s. You must guide a team of four prisoners through the dungeons of Mount Grimrock, places as aged and unforgiving as the game's underlying mechanics.

Grimrock rewards thoughtful play in everything from the grid-based

movement and combat to the way you develop your characters. But for newcomers to this style of game, tutorials are as threadbare as the naked prisoners you escort.

Learning is by experimentation and death in the darkness: even for an experienced player, the trek is deliberately tough, with merciless monsters and puzzles that range from difficult to frustratingly obtuse. Traps will snare the unwary, and mobs of monsters can easily overwhelm you. But lone enemies can be bested easily with a strafe-and-poke strategy: while it's true that



The denizens of Grimrock's dungeons are eager to feast on your party.

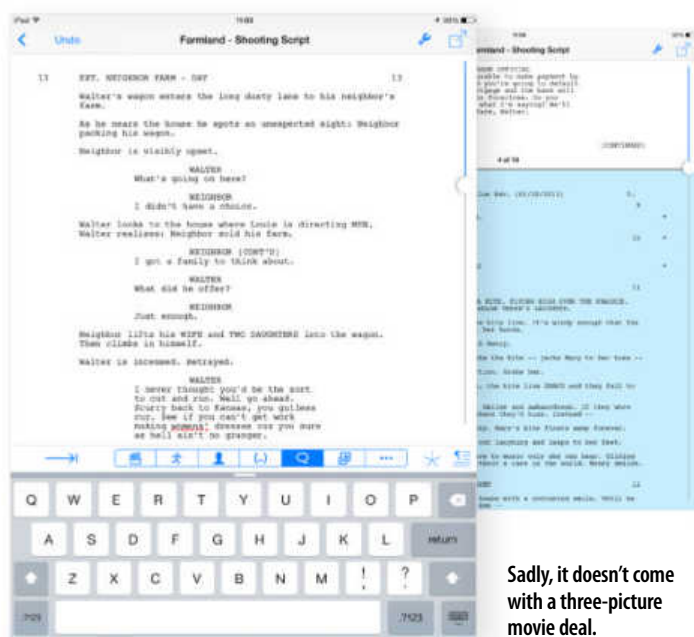
skeletons technically have no brains, they'd be better opponents with a scrap of common sense.

Grimrock's throwbacks are well-meaning but divisive by design, making it hard to recommend for unseasoned adventurers – but it has obvious appeal if you crave an old-school challenge. **Alan Williamson**



A uniquely dour adventure that will delight dungeon masters and scare off the rest of us.

- + Oppressive, tense atmosphere
- + A real challenge
- Obtuse puzzles
- Can feel dated at times



Sadly, it doesn't come with a three-picture movie deal.

Final Draft Writer 2

(Almost) all a screenwriter needs

★★★★★

£14.99 Developer Final Draft, finaldraft.com

Works with iPhone, iPod touch, iPad **Version** 2.0.1



Final Draft is one of those rare apps that completely owns its market: screenwriting.

The full version is a mainstay in just about any studio you can claim, and the desks of hopeful writers around the world. Its iPad sibling is just as essential on the go. It's not simply a place to put words, but one that understands the needs of production – coloured pages for instance, tracking revisions, highlighting character names for easy tracking and activities like table reads, and exporting useful data, like how much a specific character speaks during the script and what all of their lines are.

While intended as a companion app, it's got everything you need to actually write a script, as well as handy features from the desktop edition like automatically filling in of character names so that you don't have to keep doing so, and

exporting the finished work to either its own format or PDF.

For the amount that you can tweak and toy and write on the fly, £15 is nothing. For comparison, the desktop version costs £160. Of course, it does have some omissions, such as the corkboard view. However, it never feels like corners have been cut, with the feature set throughout generally feeling complete. **Richard Cobbett**



An essential app for any screenwriter, worth checking out whether or not you already use Final Draft on a Mac.

- ✦ Excellent interface
- ✦ Fully featured
- ✦ Handles writing and production
- Index cards would be nice

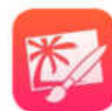
PIXELMATOR 2

Metal power comes to iPhone

★★★★★

£3.99 Developer Pixelmator Team, pixelmator.com

Works with iPhone, iPod touch, iPad **Version** 2.0.2



Pixelmator had a successful launch on the iPad and with this update you can get the same photo-editing power on your iPhone too. It's now backed by Apple's Metal technology, which is meant to speed up fancy edits. The list of creative tools is impressive and, particularly with the distortion effect, we would say it's very fast to render. But when it comes to colour balancing and simple effects we wouldn't say you really notice the speed over simpler apps such as Snapseed. That aside, Pixelmator's biggest

draw is how it uses layers. It hides them in a panel that's off-screen until you swipe it in from the left. From here layers can be selected one at a time, merged, blended and adjusted to your needs, just like in a proper desktop photo app. A further boon is syncing to iCloud, enabling you to continue working on an image elsewhere, or you can use Handoff. **Christian Hall**



Speedy edits thanks to Apple's Metal technology, but all that power on a phone isn't that noticable.

MACID

Mac unlocking made easy

★★★★★

£2.99 Developer Kane Cheshire, http://macid.co

Works with iPhone, iPod touch, iPad, Apple Watch **Version** 1.2.1



MacID is an intriguing way to control locking and unlocking your Mac's screen using an iOS device's Touch ID sensor. Download the iOS app and companion Mac app and connect the two using Bluetooth LE. Your iOS device's fingerprint reader is then used to lock and unlock your Mac, or a passcode will do if your iOS device lacks Touch ID.

There's clever stuff here, like the option to lock the Mac when you move away from it and wake it when you return. MacID even supports audio playback controls for the Mac,

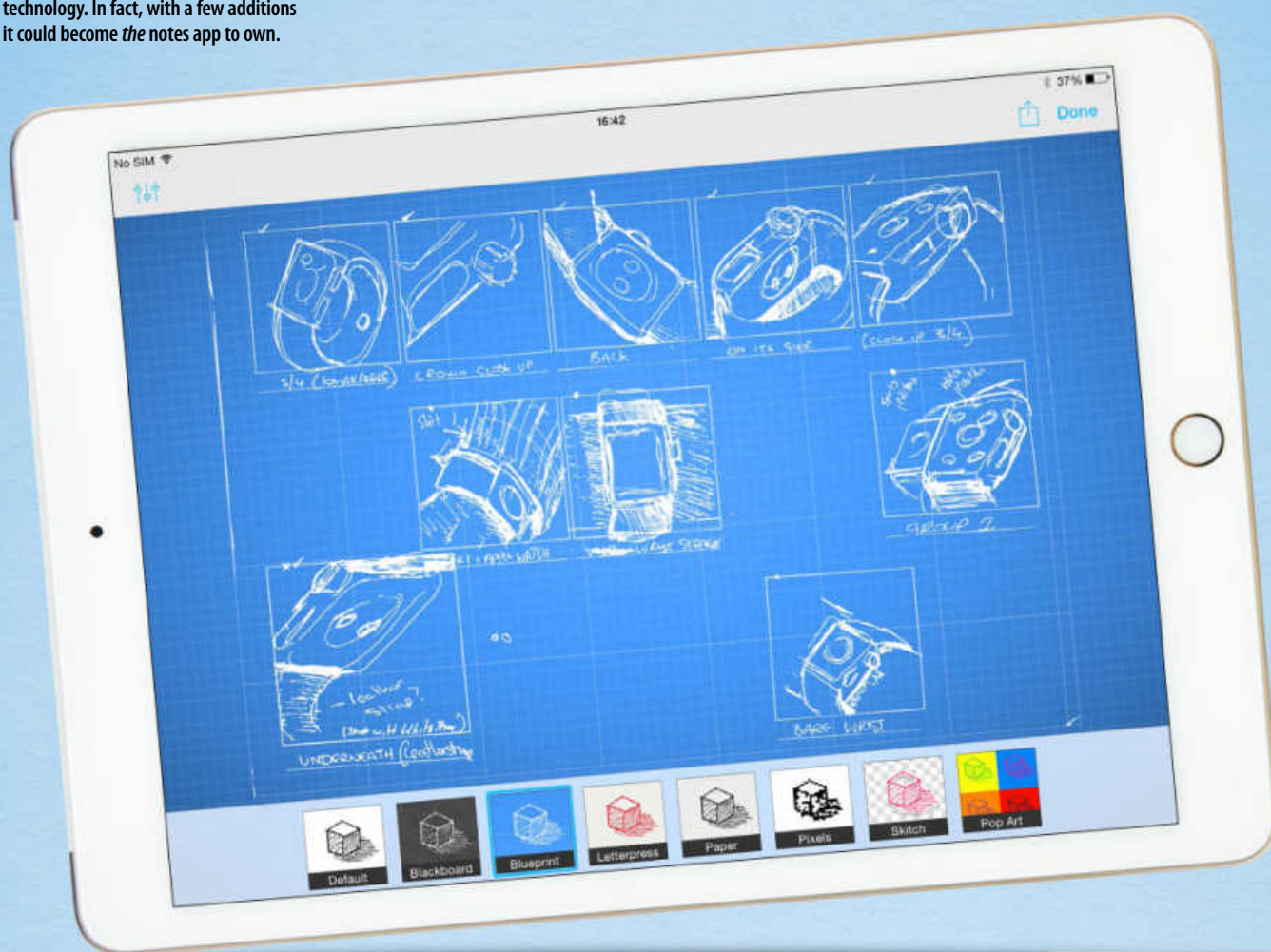
and unlocking from an Apple Watch. Additional features like Clipboard sharing, unlocking by tapping a pattern on your trackpad, and the ability to start screensavers make MacID a versatile system.

The developer points out that no part of the locking or unlocking process involves a web connection, which is great if you're worried about data security. **Hollin Jones**



A novel, affordable and useful way to keep your Mac secure with a minimum of fuss.

Carbo showcases some pretty amazing technology. In fact, with a few additions it could become *the* notes app to own.



Carbo

Turn physical notes to digital the easy way



£5.99 Developer Creaceed, creaceed.com

Works with iPhone, iPod touch, iPad **Version** 1.0.1



If you find that writing or drawing your plans out by hand helps you to get them in order, you're far from alone. But storing things digitally does tend to make them easier to find and sort. Carbo bridges the gap between these two, letting you take (or import) photos of drawings on paper or whiteboard, then digitising them. It clears out things like the paper, leaving you with only the information itself.

It's not the first app to try something like this, but its results are among the most impressive we've seen.

Snap a photo and it will detect the lines, which you can then immediately make stronger or softer – our writing came out very weak at first, but tweaking the slider made it clear. Once you've grabbed the image, you can tag it, to make it easy to search for things relating to a certain project or topic, and you can store it locally or in the cloud.

In this core functionality, Carbo is very strong. Where it falls short is in the other things you might want to do. There's no handwriting support, nor is there OCR for extracting what notes say to an editable format.

You do have some editing options, including the ability to highlight portions of notes, then tweak the selected lines. Getting used to highlighting can take a little while, but it's potentially powerful.

Exporting is hidden away too – it's not a direct option when viewing a note – you have to tap the palette icon, where you can apply some styles before export. Again, nice, but a little annoying. **Matt Bolton**

TEAM TALK



Carbo really impressed me with the ability to cut and paste sections of a sketch, like the shot list for our Apple Watch photoshoot (above). But I really need those little annotations to be there if it's to become one my top work apps for iPad.



Carbo has some great tech, but it could be much more useful. No handwritten annotations is odd.

- Great handwritten notes capture
- Some powerful editing features
- No OCR or proper annotations
- Some fiddly interface design

EDITORIAL

EDITOR **Christian Hall**
christian@macformat.com

MANAGING ART EDITOR **Paul Blachford**
paul@macformat.com

DIGITAL ART EDITOR **Seth Singh**
seth@macformat.com

PRODUCTION EDITOR **Alan Stonebridge**
alan@macformat.com

COMMISSIONING EDITOR **Alex Blake**
alex@macformat.com

CONTRIBUTORS

EDITORIAL: Matt Bolton, J.R. Bookwalter, Clem Chambers, Richard Cobbett, Jonny Evans, Ian Evenden, Craig Grannell, Rosie Hattersley, Kenny Hemphill, Alastair Jennings, Hollin Jones, Cliff Joseph, Jeremy Laird, Gary Marshall, Angela Nicholson, Dan Oliver, Chris Phin, Nick Peers, Nik Rawlinson, James Robinson, Luis Villazon, Alan Williamson
ART: Apple, Future Photography Studio (Olly Curtis, Joby Sessions), Jamie Schildhauer, Elly Walton

MANAGEMENT

HEAD OF CONTENT & MARKETING, TECHNOLOGY **Nick Merritt**
GROUP EDITOR-IN-CHIEF **Paul Newman**
GROUP ART DIRECTOR **Steve Gotobed**

ADVERTISING

SENIOR ADVERTISING SALES MANAGER **Richard Hemmings**
ADVERTISING SALES MANAGER **Michael Pyatt** michael.pyatt@futurenet.com
ACCOUNT SALES MANAGER **Andrew Tilbury** andrew.tilbury@futurenet.com
ACCOUNT SALES MANAGER **Kevin Stoddart** kevin.stoddart@futurenet.com

PRINT & PRODUCTION

PRODUCTION CONTROLLER **Frances Twentymen** frances.twentymen@futurenet.com
PRODUCTION MANAGER **Mark Constance** mark.constance@futurenet.com
HEAD OF PRODUCTION **Robert Dark** robert.dark@futurenet.com

LICENSING

LICENSING & SYNDICATION DIRECTOR **Regina Erak**
regina.erak@futurenet.com Tel +44 (0)1225 442244 Fax +44 (0)1225 732275

FUTURE PUBLISHING LIMITED

CONTENT & MARKETING DIRECTOR **Nial Ferguson**
CHIEF EXECUTIVE **Zillah Byng-Maddick**

PRINT SUBSCRIPTIONS

Tel **0844 848 2852** Web **myfavouritemagazines.co.uk**
Email **macformat@myfavouritemagazines.co.uk**

NEXT ISSUE ON SALE Wednesday 2 Sept 2015

PRINTED IN THE UK BY William Gibbons

DISTRIBUTED IN THE UK BY Seymour Distribution Ltd, 2 East Poultry Avenue, London, EC1A 9PT Tel **020 7429 4000**

If you would like to purchase the images featured in this publication, please visit
www.futuremediastore.com or email **mediastore@futurenet.com**

Want to work for Future?
Visit **www.futurenet.com/jobs**



Future is an award-winning international media group and leading digital business. We reach more than 49 million international consumers a month and create world-class content and advertising solutions for passionate consumers online, on tablet & smartphone and in print.

Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR).
www.futureplc.com

Chief executive Zillah Byng-Maddick
Non-executive chairman Peter Allen
Chief financial officer Richard Halsey
Tel +44 (0)207 042 4000 (London)
Tel +44 (0)1225 442 244 (Bath)



Print 12,670
Digital 9,541

The ABC combined print and digital circulation for Jan-Dec 2014 is

22,211

A member of the Audited Bureau of Circulations



We are committed to only using magazine paper which is derived from well managed, certified forestry and chlorine-free manufacture. Future Publishing and its paper suppliers have been independently certified in accordance with the rules of the FSC (Forest Stewardship Council).

© Future Publishing Limited 2015. All rights reserved. No part of this magazine may be used or reproduced without the written permission of the publisher. Future Publishing Limited (company number 2008885) is registered in England and Wales. The registered office of Future Publishing Limited is at Quay House, The Ambury, Bath, BA1 1UA. All information contained in this magazine is for information only and is, as far as we are aware, correct at the time of going to press. Future cannot accept any responsibility for errors or inaccuracies in such information. Readers are advised to contact manufacturers and retailers directly with regard to the price of products/services referred to in this magazine. If you submit unsolicited material to us, you automatically grant Future a licence to publish your submission in whole or in part in all editions of the magazine, including licensed editions worldwide and in any physical or digital format throughout the world. Any material you submit is sent at your risk and, although every care is taken, neither Future nor its employees, agents or subcontractors shall be liable for loss or damage.



When you have finished with this magazine please recycle it.



UPGRADE!

Your guide to buying a Mac, iPad, iPhone and Watch

SPOTLIGHT

The Apple kit we're most excited about



Just a few months from new iPhone and iPad models being unveiled, Apple's has announced the iPad Air 2 is the only one of the current line-up that will gain certain iOS 9 features, though all current models will run it. So, if you need a new iPad now (perhaps for the new academic year), and unless your heart is absolutely set on the small but more easily portable iPad mini, the iPad Air 2 is by far your best option at this point in the year.

The iPad Air 2 is the only model which has an anti-reflective coating and fully-laminated display

Protective cases

The latest iPads are very thin, so try them out in an Apple Store and consider budgeting for a case to make them more comfortable to hold.



iPad

DAYS SINCE REFRESH

272

UPDATE LIKELY?

October 2015?

BUY OR WAIT?

Wait if you can

➤ The iPad Air 2 is Apple's thinnest, lightest and most powerful tablet to date. Its A8X processor has a 40% speed boost over 2013's iPad Air. When Apple previewed iOS 9 in June, it announced that new multitasking features are coming to the iPad, enabling you to slide a second app into view (say, to check email) without leaving the one you're working in. However, of the iPad models currently available, only the iPad Air 2 will benefit from the new Split View mode, which will enable you to keep open and work in two apps side-by-side.

The iPad Air 2 and iPad mini 3 feature Touch ID for unlocking the device with a fingerprint instead of a passcode. All models are available in Space Grey and Silver, while the Air 2 and mini 3 also have a Gold option. Storage space starts at 16GB, peaking at 32GB in the iPad Air and iPad mini 2, while the newest models are available in 64GB and 128GB.

CHOOSE AN iPad

Model	Key specifications	Price
iPad mini 2 Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels Processor: 64-bit A7+M7 Video recording: 1080p HD	R 16GB: £239 32GB: £279
iPad mini 3 Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels Processor: 64-bit A7+M7 Video recording: 1080p HD	R 16GB: £319 64GB: £399 128GB: £479
iPad Air Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels Processor: 64-bit A7+M7 Video recording: 1080p HD	R 16GB: £319 32GB: £359
iPad Air 2 Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels Processor: 64-bit A8X+M8 Video recording: 1080p HD	R 16GB: £399 64GB: £479 128GB: £599

R = Retina display

The Days Since Refresh box shows you when an Apple product was last updated at the time we went to press, and whether it's safe to buy now or wait. Please remember this advice is just our best guess – Apple can update any product line at any time.



MacBook

DAYS SINCE REFRESH

134

UPDATE LIKELY?

New model

BUY OR WAIT?

Buy now

➤ The newest member of the Mac family sports a 12-inch Retina display with a pixel density of 226ppi – almost identical to the MacBook Pro. It's available in the same silver colour as other MacBooks, as well as Gold and Space Grey variants.

Only this and the MacBook Pro feature a Force Touch trackpad, which detects and responds differently to levels of pressure. The backlit keys are larger than on other Macs, and run almost from edge to edge of the MacBook's body.

The MacBook is powered by Intel's new Core M processors (up to 1.3GHz),

which are designed to stay cool without needing a fan, making this the quietest portable Mac. All models come with 8GB of RAM – double the amount that's standard on the MacBook Air – but can't be upgraded any further than that. They also include fast flash storage that starts at a comfortable capacity of 256GB, rising to 512GB in the more expensive version. The 1.3GHz processor upgrade is available on both models for between £120 and £200.

CHOOSE A MACBOOK

Model	Key specifications	Price
12" 1.1GHz dual-core Intel Core M	RAM: 8GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5300 Solid State Drive: 256GB	£1,049
12" 1.2GHz dual-core Intel Core M	RAM: 8GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5300 Solid State Drive: 512GB	£1,299
12" 1.3GHz dual-core Intel Core M	RAM: 8GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5300 Solid State Drive: 256GB or 512GB	£1,249 or £1,419

R = Retina display



MacBook Air

DAYS SINCE REFRESH

134

UPDATE LIKELY?

Recently updated

BUY OR WAIT?

Buy now

➤ The 2015 MacBook Air refresh is a mere speed bump, yet even with the announcement of a new, lighter MacBook, the Air remains Apple's most affordable portable Mac.

The MacBook Air uses Broadwell processors, which are designed to use very little power. The 2015 range's updated graphics chipset is a small amount faster than its predecessor, and its flash storage can reach speeds in excess of 1,000 megabytes per second, which is in the same league as the Mac Pro. The MacBook Air is equipped with 802.11ac Wi-Fi, which is up to

three times quicker than 802.11n, although you will need a compatible router to get that speed. Battery life is awesome, with the 13-inch models lasting up to 12 hours, and the 11-inch Airs running for up to nine hours on a single charge.

CHOOSE A MACBOOK AIR

Model	Key specifications	Price
11" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 128GB	£749
11" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 256GB	£899
13" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 128GB	£849
13" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 256GB	£999

UPGRADE!



MacBook Pro

DAYS SINCE REFRESH

63

UPDATE LIKELY?

Recently updated

BUY OR WAIT?

Buy now

➤ Apple recently updated the Retina MacBook Pro with a brand-new Force Touch trackpad, small boosts to their Intel processors, and upgraded graphics capabilities. The most expensive model is the only one with a discrete graphics processor, which is now an AMD Radeon R9 M370X.

Since October 2013, all but one model of MacBook Pro has offered a Retina display, Thunderbolt 2, flash storage and a lightweight chassis, though the £899 non-Retina model persists. Power savings afforded by the latest Intel processors give the Retina

MacBook Pros a long battery life. The 13-inch model now lasts for 10 hours, and the 15-inch versions for nine hours.

CHOOSE A MACBOOK PRO

Model	Key Specifications	Price
13" 2.5GHz dual-core i5	Graphics: Intel HD Graphics 4000 Hard drive: 500GB RAM: 4GB	£899
13" 2.7GHz dual-core i5	Graphics: Intel Iris 6100 Graphics ^R Solid State Drive: 128GB RAM: 8GB	£999
13" 2.7GHz dual-core i5	Graphics: Intel Iris 6100 Graphics ^R Solid State Drive: 256GB RAM: 8GB	£1,199
13" 2.9GHz dual-core i5	Graphics: Intel Iris 6100 Graphics ^R Solid State Drive: 512GB RAM: 8GB	£1,399
15" 2.2GHz quad-core i7	Graphics: Intel Iris Pro Graphics ^R Solid State Drive: 256GB RAM: 16GB	£1,599
15" 2.5GHz quad-core i7	Graphics: AMD Radeon R9 M370X ^R Solid State Drive: 512GB RAM: 16GB	£1,999

^R = Retina display



iMac

DAYS SINCE REFRESH

278

UPDATE LIKELY?

Recently updated

BUY OR WAIT?

Buy now

➤ Apple leapt straight to 5K to make the 27-inch Retina 5K iMac the desktop computer to own. In May 2015, Apple reduced the top model's price by £150; it has a 3.5GHz quad-core Intel Core i5 (there's a 4.0GHz Core i7 option), a 1TB Fusion Drive, 8GB of RAM and an AMD Radeon R9 M290X with 2GB video memory. At the same time Apple updated the mid-range 27-inch with a Retina 5K display and new graphics processor. Other models are unchanged, with one non-Retina 27-inch and three 21.5-inch models. All except the entry-level iMac have a quad-core processor.

CHOOSE AN iMAC

Model	Key specifications	Price
21.5" 1.4GHz dual-core Intel Core i5	Hard drive: 500GB (5400rpm) Graphics: Intel HD Graphics 5000 Graphics memory: Shared	£899
21.5" 2.7GHz quad-core Intel Core i5	Hard drive: 1TB (5400rpm) Graphics: Intel Iris Pro Graphics memory: Shared	£1,049
21.5" 2.9GHz quad-core Intel Core i5	Hard drive: 1TB (5400rpm) Graphics: NVIDIA GeForce GT 750M Graphics memory: 1GB of GDDR5	£1,199
27" 3.2GHz quad-core Intel Core i5	Hard drive: 1TB (7200rpm) Graphics: NVIDIA GeForce GT 755M Graphics memory: 1GB of GDDR5	£1,449
Retina 5K 27" 3.3GHz quad-core i5	Hard drive: 1TB (7200rpm) ^R Graphics: AMD Radeon R9 M290 Graphics memory: 2GB of GDDR5	£1,599
Retina 5K 27" 3.5GHz quad-core i5	Hard drive: 1TB Fusion Drive ^R Graphics: AMD Radeon R9 M290X Graphics memory: 2GB of GDDR5	£1,849

^R = Retina display



Mac mini

DAYS SINCE REFRESH

278

UPDATE LIKELY?

Recently updated

BUY OR WAIT?

Buy now

➤ The smallest Mac in Apple's range finally got a long-awaited update in October. It's a welcome update, but there have been a few odd choices in the components as well. Starting at a new lower price of £399 (£100 cheaper than the previous model), it's still the same shape as before, but with some more modern internals.

It starts with a 1.4GHz Intel Core i5 dual-core processor with Intel HD 5000 graphics, 4GB of RAM and a 500GB hard drive – pretty much the lowest-end iMac without a screen. It's the same kind of power as you get in a

MacBook Air, but without the zippiness of flash memory.

Higher end models bring Intel Iris graphics and the option for a Fusion Drive hybrid storage system, though every option limits you to dual-core processors – a quad-core option is sadly absent. When stepping up to the high-end model (£230 more than the previous model), you get a 2.8GHz Core i5, 8GB of RAM, Intel Iris graphics and a 1TB Fusion Drive, offering more headroom for tasks such as video editing, but it still needs to be accepted that these aren't powerhouses like some other Macs.

CHOOSE A MAC MINI

Model	Key specifications	Price
1.4GHz dual-core Intel Core i5	Hard drive: 500GB RAM: 4GB 1600MHz LPDDR3 Graphics: Intel HD Graphics 5000	£399
2.6GHz dual-core Intel Core i5	Hard drive: 1TB RAM: 8GB 1600MHz LPDDR3 Graphics: Intel Iris Graphics	£569
2.8GHz dual-core Intel Core i5	Hard drive: 1TB RAM: 8GB 1600MHz LPDDR3 Graphics: Intel Iris Graphics	£799



Mac Pro

DAYS SINCE REFRESH

579

UPDATE LIKELY?

Possible soon

BUY OR WAIT?

Wait if you can

➤ Eschewing the traditional tower design of high-end workstations, the Mac Pro is just one eighth of the previous model's size – standing just 9.9 inches tall – but it packs a lot of power. And we mean a lot!

Designed around a thermal core that cools its components, the Mac Pro boasts a Xeon processor, dual workstation-class GPUs, PCIe-based flash storage and fast ECC memory. Six Thunderbolt 2 ports sit at the back, each one providing 20Gbps of bandwidth in one direction and

able to daisy-chain up to six peripherals. It's fully backwards compatible with the original Thunderbolt port too, so if you already have Thunderbolt devices, you can still use them. There are also four USB 3.0 ports and two Gigabit Ethernet ports. It can be customised with better graphics cards and more capable (but costly) Xeon processors with six, eight or 12 cores, rather than the entry-level model's four.

The Mac Pro is an incredibly powerful computer that'll provide you with astonishing performance for the most demanding tasks, yet it's probably a Mac too far for most users. However, with Thunderbolt 3 so close to availability, it's worth delaying your purchase unless you absolutely need the Mac Pro's tremendous processing and graphics capabilities right now.

CHOOSE A MAC PRO

Model	Key specifications	Price
3.7GHz quad-core Xeon E5	Solid State Drive: 256GB RAM: 12GB 1866MHz DDR3 ECC Graphics: Dual AMD FirePro D300	£2,499
3.5GHz six-core Xeon E5	Solid State Drive: 256GB RAM: 16GB 1866MHz DDR3 ECC Graphics: Dual AMD FirePro D500	£3,299

UPGRADE!



iPhone

DAYS SINCE REFRESH

305

UPDATE LIKELY?

August 2015?

BUY OR WAIT?

Wait if you can

➤ When you're deciding which iPhone to buy, your decision will be driven primarily by what size screen you want. The iPhone 5c (sadly relegated to one capacity, 8GB) and 5s have a 4-inch screens, while the 6 and 6 Plus have 4.7-inch and 5.5-inch screens, respectively; think about how they fit into your life – literally.

There are other differences; the 6 Plus's camera has an image-stabilising lens, and both 6 models are faster.

Rumours began to circulate in May that Apple will announce the next iPhone in August, a month earlier in

the year than usual. So, if you're coming up to the end of your contract, you might want to hold off a few more months. At its developer conference in June, Apple announced that iOS 9 will focus on performance, and that it will continue to run on the iPhone 4S, which is already the oldest model supported by iOS 8.

CHOOSE AN iPhone

Model	Key specifications	Price
iPhone 5c	Processor: A6 Camera: 8-megapixel Video: 1080p, 30fps	R 8GB: £319
iPhone 5s	Processor: A7+M7 Camera: 8-megapixel Video: 1080p, 30fps/720p, 120fps	R 16GB: £459 32GB: £499
iPhone 6	Processor: A8+M8 Camera: 8-megapixel Video: 1080p, 60fps/720p, 240fps	R 16GB: £539 64GB: £619 128GB: £699
iPhone 6 Plus	Processor: A8+M8 Camera: 8-megapixel Video: 1080p, 60fps/720p, 240fps	R 16GB: £619 64GB: £699 128GB: £789

R = Retina display



Apple Watch

DAYS SINCE REFRESH

88

UPDATE LIKELY?

Not until 2016

BUY OR WAIT?

Buy now

➤ Apple Watch has the biggest price range of any Apple product, and goes from one of the cheapest to by far its most expensive. That's because it's more than just another Apple gadget. It's also an accessory, and a fashion one at that. Most won't give the gold ones a second look. But if serious jewellery is your thing then Apple offers that too.

Of all Apple products though, never has a buyer's guide been more needed! A staggering 38 different combinations are available. Apple realises that picking one isn't an easy decision, so stores offer fitting sessions and there are even

dedicated Watch boutiques, just like a real jewellers. The info on Apple's website is a very good starting point, however.

CHOOSE A WATCH

Model	Key Specifications	Price
Apple Watch Sport (38mm)	Cases Silver Aluminium, Space Grey Aluminium	£299
Apple Watch Sport (42mm)	Cases Silver Aluminium, Space Grey Aluminium	£339
Apple Watch (38mm)	Cases Stainless Steel, Space Black	£479
Apple Watch (42mm)	Cases Stainless Steel, Space Black	£519
Apple Watch Edition (38mm)	Cases 18-Carat Rose Gold, 18-Carat Yellow Gold	£8,000
Apple Watch Edition (42mm)	Cases 18-Carat Rose Gold, 18-Carat Yellow Gold	£9,500

NEXT ISSUE...

Mac & iOS problems solved!

Fed up of seeing the beachball on OS X, or crashes in iOS? We show you around some of the proven fixes for those little annoyances with Apple kit

PLUS!

- How to buy your next Mac
- Great alternatives to Apple Mail
- Try out El Capitan the easy way
- The new iPod touch reviewed

Don't miss it – subscribe today!

IN PRINT & ON YOUR iPad

Our print and digital bundle gets you the real magazine as well as our enhanced iPad edition

myfavouritemagazines.co.uk/MACsubs

ON YOUR MAC

Read on the big screen: subscribe with Zinio at

zinio.com/macformat

Enhanced interactive features are iPad-only, and not available when viewed on an iPhone.



T3

**HELPING YOU
MAKE THE MOST
OF LIFE IN TODAY'S
CONNECTED WORLD**



ONLINE • PRINT • TABLET

**AUDIO TECHNICA
ATH-MSR7**
Escape to a world of
high resolution audio

SAMSUNG JS9000
Relax with the latest
home entertainment

CARL ZEISS VR
Embrace a new era of
virtual reality gaming

SONY XPERIA Z3
Putting you in control
of your life and home

APPLE WATCH
Your health and
fitness upgraded

LIFE'S BETTER WITH T3

t3.com



Gary Marshall goes panning in the river of rumour for nuggets of knowledge

Next-gen iBeacons



Apple has been tracking us all for some time: Passbook uses your location to automatically show you concert tickets, airline boarding passes and other useful information where and when you need it, and you can ask Siri to remind you to get something when you're at a particular place. But that tracking's going to become a little more annoying and possibly even a little bit sinister.

Apple has dozens of patents around geofencing, doing particular things based on where you are, and location services, and the recently granted patent 8,996,030 makes its device tracking considerably more accurate through the use of a "beacon". That might be a Bluetooth low energy beacon, such as Apple's own iBeacons, which are rolling out in airports, supermarkets and sports venues near you; it might be an infrared transmitter; or it might be as simple as an RFID tag. Whatever the beacon, it helps your device pinpoint your location (which is handy for indoor mapping) and then either do something such as tell you about a special offer or stop you from doing what you want.

That latter option is what patent 20110128384, filed in 2009, is all about. It describes how your phone camera could detect an invisible infrared "kill switch", an encoded transmission that prevents you from using your camera at the cinema, at a concert or in any place where the owners don't want you to take pictures (which, as amateur photographers know, is a lot of places). The technology can be used for nice things too, such as triggering augmented reality apps or helping you navigate, but you can see the appeal for mall owners, cinema chains, concert promoters and sinister organisations with secrets they'd rather keep.

The real danger to iBeacon probably isn't heavy-handed control freakery by the fun police, though: it's cack-handed targeting of advertising. The prospect of a relevant in-store coupon from a place you're already in is fine; the prospect of every high street or mall becoming Notification Hell as every single shop tries to clamour for your attention (iBeacons' range can be up to 50 metres) is considerably less so. If retailers get it wrong, the only thing that'll be getting killed is iBeacon itself.

Apple's iBeacons may soon get an 'upgrade' that could mean you'll be prevented from using certain applications in some locations.





OilPaint

Standalone App & Photoshop Plugin

AKVIS OilPaint turns your photos into oil paintings.
With this cutting-edge software you can become an artist!



AKVIS.COM

MIDDLE-EARTH™

SHADOW OF MORDOR



OUT NOW

WWW.FERALINTERACTIVE.COM



MIDDLE-EARTH: SHADOW OF MORDOR © 2014 Warner Bros. Entertainment Inc. Originally developed by Monolith, in association with Wingnut Films. © 2014 New Line Productions, Inc. © The Saul Zaentz Company. MIDDLE-EARTH: SHADOW OF MORDOR, THE HOBBIT, and the names of the characters, items, events and places therein are trademarks of The Saul Zaentz Company d/b/a Middle-earth Enterprises under license to Warner Bros. Interactive Entertainment. Developed for and published on the Mac by Feral Interactive Ltd. Mac and the Mac logo are trademarks of Apple Inc., registered in the U.S. and other countries. Feral and the Feral logo are trademarks of Feral Interactive Ltd. All other trademarks and copyrights are the property of their respective owners. All rights reserved.



MONOLITH LOGO, WB GAMES LOGO, WB SHIELD:™ & © Warner Bros. Entertainment Inc.

